University of Alberta

New Media and the North Korean Nuclear Crisis

by

©

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requirements for the degree of Master of Arts

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DEDICATION:

To my Wife and Family.

ABSTRACT :

This thesis emphasizes the utility of applying new media cartography to political issues. To this end news space and Internet colinkage network mapping was undertaken in relation to the North Korean nuclear crisis over time. The presence of semantic organizing frameworks in news coverage related to the North Korean issue in English, Chinese and Japanese were mapped and analyzed with the aid of software. The thesis presents, through visualization methodology, a statistically significant measurement of how public diplomacy efforts related to North Korea resonate on the Internet. Information and Communications Technology (ICT) development and application is not disassociated from or incidental to the constitution of the body politic in modern society. Therefore, Web-based study of conflict and information politics such as that presented in this thesis is an increasingly relevant undertaking within international relations scholarship.

AKNOWLEDGEMENTS:

For inspiration as well as mentoring: Richard Rogers and Andrei Mogoutov.

Table of Contents:

Introduction.	1
Chapter One : News Spaces, Issue Networks and Dynamic Mapping.	4
A. Introduction to Virtual Cartography.	4
B. Information Politics vs. The ICT Myth.	6
C. News Spaces.	8
D. Issue Networks.	13
E. Dynamic Mapping.	20
F. Conclusions.	27
Chapter Two : Mapping the North Korean News Space, an Introduction.	29
A. Introduction to the Case Study.	29
B. Web and software tools.	32
C. Methodology.	33
D. Semantic Organizing Frameworks and Public Policy.	34
E. Considering Semantic Organizing Frameworks	38
Chapter Three : News Space Analysis.	42
A. English Language North Korea News Space Analysis I.	42
B. Expansion of the Study.	47
C. Chinese Language News Space Analysis.	52
D. Japanese News Space Analysis.	62
E. Implications.	64
F. The GoogleNews Scraper (Social (inter)networking tools)	66
Chapter Four : Using IssueCrawling to understand Issue Networks.	69
Chapter Five : Mapping Security Issues in the North Korean New Media News Space.	76
A. The North Korean New Media News Space As a Site of Public Diplomacy and Conflict.	76
B. English Language News Space Analysis II : tracking the resonance of the submarine based missile capacity issue in English online news.	78
C. English Language News Space Analysis III :	

An American Election. Issues, Policies and Personalities. 83
D. Total Network Map. 87
E. Implications. 88

Chapter Six, Conclusion:
International Relations and Rogers' *Information Politics.* 90

Bibliography. 103

Appendix:
Supplementary Data and Technical Considerations. 112

List of Figures:

FIGURE. 1 : "Occupied and Unoccupied Media Spaces." 11
FIGURE. 2 : "The News from Baku. "We have few issues with the pipeline."" 12
FIGURE. 3 : First Map of the English Language North Korea News Space 13
FIGURE. 4 : "North – South as "Geographical" Actor-Issue Spheres." 18
FIGURE. 5 : French and Arabic Cluster Map 22
FIGURE. 6 : Zelman's Mediá Analysis Toolbox 28
FIGURE. 7 : Original NK News Space (EN. 1) 42
FIGURE. 8 : "Regime Change On Demand." 43
FIGURE. 9 : NK EN.1 Total News Outlet Network of Original Seven Queries. 46
FIGURE. 10 : NK EN. 1 Story Distribution per Outlet. 48
FIGURE. 11 : NK EN. 2 49
FIGURE. 12 : CN NK 1 53
FIGURE. 13 : CN NK 2 55
FIGURE. 14 : CH NK 3 Semantic Framework Map 57
FIGURE. 15 : CN NK 4 News Network Content Distribution Map 60
FIGURE. 16 : JPN NK News Space Map 62
FIGURE. 17 : The GoogleNews Scraper 66
FIGURE. 18 : Scraper Output in .txt format 67
FIGURE. 19 : Information Design Research Issue Network Map 71
FIGURE. 20 : The CanKor Issue Network Map 73
FIGURE. 21 : NK EN News space: submarine missile threat 79
FIGURE. 22 : EN NK August 2004 over 25 responses to queries 82
FIGURE. 23 : EN NK American Election News Space Map 85
FIGURE. 24 : Total Network Map 87
FIGURE. 25 : (Appendix) NK JPN 1 112
FIGURE. 26 : (Appendix) En. 9 over 45 all Queries 113
FIGURE. 27 : (Appendix) Metareturn Graph NK EN News space 114
FIGURE. 28 : (Appendix) Metareturn Graph without "Nuclear" and "War" 115
FIGURE. 29 : (Appendix) Total Metareturn Database 116
FIGURE. 30 : (Appendix) Fixedphrase Graph 118

Introduction.

Ole Waever accurately describes the theoretical debate in international relations as taking place along a positivist – deconstructivist axis (Waever, 1997). This axis runs from Realism on the positivist pole towards Liberalism and Critical Theory at the deconstructive pole. Traditional analysis of the North Korean nuclear armament issue in book form takes place within this debate between the three schools of international relations thought. At the Realist end of the spectrum traditional security and geopolitical analysis predominates, represented by work such as that of Robert Dujarric (Dujarric, 2000). From a Liberal stance North Korea has been analyzed more recently as an opportunity to advance multilateralism in a permanent forum by Francis Fukiyama (Fukiyama, 2005). Critical and constructivist perspectives on North Korea bring into question securitization of the issue and the relation of Korean identity to the possibility of reunification. In particular endogenous Korean capacities in a Cold War framework are addressed by Richard Grinker and Chae-sung Chun (Grinker, 1998. Chun, 2001).

The study presented in this thesis is unique and constitutes an original contribution to scholarship on North Korea in several ways.

Firstly, existing literature on the topic suffers from a time-lag issue which is exacerbated by the rapid evolution of events on the Korean peninsula. During this second nuclear armament debacle with North Korea, the rapidly changing policy environment poses a significant challenge to traditional book publishing format. Traditional book publishing, when compared to just-in-time texts such as those readily available on the

Web, fails to keep apace of the conflict as it develops. This study has attempted to address this issue directly from new angles and with new techniques that will be explained in detail below. It is important to assert that focusing on new media permits a timeliness and anticipatory capacity that is an important innovation for the analysis of the Korean peninsular situation. As the role of downloaded e-texts continually expands within the international relations research and policy communities, this timeliness constitutes a premium. This is clear in particular in relation to estimations of DPRK nuclear armament capacity. Indeed, mystery regarding factual information, and serious consideration of press resonance are characteristics central to both DPRK and U.S. policy. Thus the situation is aptly treated by serious and critical consideration of news spaces.

Furthermore, as Walter Clemens Jr. has argued from an economic perspective, the utility of methods focused on North Korea may lie in their neutrality. Thus Clemens focuses on negotiating techniques and their utility in relation to the North Korean crisis (Clemens Jr., 2003). The point is that solid methods can be applied from any point on the IR theoretical spectrum. Therefore, this study explains a new media based methodology focused on statistical significance in news coverage and across language groups on the Internet, as well as linkage behaviour on the Web. This is a new model of inquiry spreading rapidly in the social sciences apace with advancements in automation and visualization. Virtual cartography is a systemic methodology that has the potential to be applied from different perspectives and within different disciplines.

That said, based on concepts of identity, emancipation, securitization, remediation, and varying units of analysis transgressing the domestic – international

boundary, a critical perspective seems apt for the analysis of news spaces and colinkage behaviour related to North Korea. Such an approach offers the potential to move beyond the Cold-War framework which persists in traditional North Korea analysis with the caveat that the Post Cold-War era is in evidence 'everywhere else in the world.' To this end Chapter One broaches the larger context and techniques driving new media methodology forward. In Chapter Two the specific methodology of the North Korea case study is presented. In Chapter Three the North Korean news space maps are analyzed, while in Chapter Four additional colinkage analysis tools are presented. The use of multiple web tools is part of the originality of this study, and compels the parallels drawn in Chapter One and Chapter Six between cartography and international relations research. Chapter Five explains the expansion of the study as later maps with greater complexity are presented and analyzed. In the final chapter, Information Politics as a concept is evaluated as a potential framework for international relations scholarship.

Chapter One : News Spaces, Issue Networks and Dynamic Mapping.[1]

A. Introduction to Virtual Cartography.

New media is being studied in creative and important new ways. These developments have important consequences across the social sciences and for political science in particular. Three techniques that have been applied and will be analyzed within this thesis and elsewhere are:

1. Colink network mapping (*issue network analysis*). Taking the links pages of a group of websites as a starting point, an Internet 'spider' crawls all of the linkages between the starting points and the rest of the network. Issue Network maps result, showing the Canadian North Korea expert community, for example, Republican convention protest networks in the U.S., or the genetically modified food debate in Europe (Rogers, 2004).

2. Internet news coverage visualization / mapping (*news space analysis*). News returns available freely on the Internet are analyzed with software tools. Vast amounts of coverage of important issues (literally tens of thousands of stories), such as the North Korean nuclear issue, or the Israeli – Palestinian separation barrier issue, are mapped to show common frames, the circulation of content, and permutations over time (Ben-David, 2004).

---

[1] Portions of this chapter originally appeared in a paper entitled "Online Issue Mapping of International News and Information Design" (Ruecker & Devereaux 2005, in press)

3. Interactive web based tools (*information politics*). Dynamic websites aid political science research. Examples include 'elections barometers' that track and compare candidates' effectiveness on specific issues daily during an election, 'civil society issue indexes' which interactively track the web campaigns of a set of specific actors, such as the Seattle WTO meeting protest network, or European Social Forum actor issues,[2] over time (Rogers, 2004).

"Research groups in Amsterdam (NERDI), Wolverhampton, U.K (Statistical Cybermetrics Research Group), and Seattle (Web archivist.org), are, respectively beginning to call this type of work the 'semiotics of hyperlinks', 'cybermetrics', and 'web archivism.'" (Elmer, 2005). Another research group in this field is international in nature and concentrated around the Govcom.org and Aguidel.com organizations. This MA thesis is part of the research agenda of this latter group, and is dedicated in large part to showing the importance of new media methodologies as applied to a case study by the author from November, 2003 to April, 2005. Specifically this thesis will demonstrate that valuable study of conflict, in this case international conflict regarding the nuclear armament status of the Democratic People's Republic of Korea can be undertaken through a primary focus on the Web.

The various mapping projects explained in this thesis are connected to one another through the use of cluster mapping technology, web harvesting, and dynamic mapping. The cluster mapping performed in each case is based upon ReseauLu software

[2] At the time of writing the Infoid.org webtool is on display as part of the ZKM *Making Things Public: Atmospheres of Democracy* exhibition in Karlsruhe, Germany. http://makingthingspublic.zkm.de/

developed by Aguidel.com[3], while the information design mapping and more recent North Korea news space maps use the web harvesting and web colinkage mapping technology developed by the Govcom.org Foundation.[4] Most importantly, all the projects evaluated are linked as examples of modern dynamic mapping that provide a cross-section analysis of the interactions of the civil society – governmental – media – innovation matrix to be found on the Web.

B: Information Politics vs. The ICT Myth

In the book Information Politics Richard Rogers (2004) outlines the practice and study of information politics as identified above. Information politics involves important conceptions of the Web as a medium of reality collision where front-end and back-end information politics are played out. Front end information politics entails the point where new media meet the user, for example GoogleNews search returns related to North Korea. Back end information politics are the hidden manipulations of information taking place behind the scenes, for example the algorithmic programming ranking search returns related to North Korea. This thesis is an attempt to understand reality collision and information politics related to the North Korean nuclear crisis in light of international relations.

Rogers, importantly, places the type of methodology undertaken in this thesis as being part and parcel of the Web, as it is through digital media that Web methodologies are enacted, thereby enacting their own information politics. Indeed significant portions

[3] http://www.aguidel.com/
[4] http://www.govcom.org/

of this thesis were published online within the expert community as the study was evolving (Devereaux & Jiang, 2004a, 2004b). The work carried out as web archivism and web epistemology is a growing interdisciplinary field, but the overt concentration on the political was a major impetus for this study in particular. Information politics as a concept grew out of the opportunity to study civil society presented by the Web, and we will return to a more detailed consideration of information politics in connection with international relations below. The North Korea new media study was conceived of at a Govcom.org workshop in November of 2003.[5] The initial news space analysis of the North Korean English language news space was undertaken and presented at the De Balie cultural centre in Amsterdam. This thesis is the result of two years of news space, issue network and information politics analysis that followed, approaching the topic of North Korea as it appeared in new media from November 2003 to April 2005.

This work should be understood as taking place in the middle of a spectrum defined on one end by the opaque and proprietary network analysis software of the international security intelligence community and at the other end the fervour of the Information and Communications Technology Myth associated with the open source / activist online community. We define the "ICT Myth" as a legacy of the dot.com bubble and a staple element of the new economy hypothesis (Gadrey, 2003). This myth held that by its very nature the application of information and communications technology was a pro-democratic egalitarian process which would have significant positive consequences across global civil society. Posed between scepticism regarding the ICT Myth and an obvious lack of access to the network methodologies of the intelligence community our work on North Korea occupies a middle ground. This middle ground is a growing reality,

[5] http://www.issuenetwork.org

and before turning to the North Korea study specifically, it is worthwhile to explore the conceptions of news spaces, issue networks, and dynamic mapping that act as the heuristic lens for the North Korea media analysis to follow.

C: News Spaces.

A news space is created in new media on the Web by freely available news coverage related to a specific issue that can be accessed by any individual with an Internet connection. Due to the ephemeral and just-in-time text basis of this coverage, we identify a space rather than a discourse in order to emphasize the dynamic nature of the content and a conception of the Web (cyberspace) as a place (Ondrejka, 2004). News coverage ebbs and flows constantly, and freely available news spaces, such as those that can be found through GoogleNews, are dependent upon chronological as well as national, linguistic and geographic parameters.

The chronological window when dealing with GoogleNews spaces is defined by the fact that the data set is created in thirty day units. Thus the last thirty days of news is accessible, while older news leaves the data window in a manner characteristic of just-in-time e-texts. A news space is dynamic not only in the momentary production of news content, which is continual on account of the distributed nature of the system, but it is additionally dynamic in terms of its existence as a temporally determinate feedback system. News spaces need not be limited to freely available GoogleNews, as any news database can constitute a valid data set for the study of news spaces, such as Lexus Nexus or subscription-based archives of e-texts. In our study, 30 day units of news returns from

GoogleNews beginning in November 2003 were collected first manually and eventually through an automated webtool.

The national and linguistic parameters of news spaces come about as news content is tailored to different national identities, with the individual news providers residing physically in a given state. The dynamics of the linguistic parameter are evident insofar as a single language may represent several groups, such as French in relation to France and Quebec, or Chinese in relation to Hong Kong, mainland China, Taiwan and 'overseas Chinese'. News spaces thus exist physically, as an articulation of the geographically determinate location of the news provider and simultaneously virtually as networks within the operational closure of the Internet as a communications system. Therefore news output from vastly different (and distant) news providers form networks in a news space.

The key to understanding and mapping these networks is to appreciate that news spaces are driven by issues. A given issue results in dynamic news coverage, and the cartographer must react dynamically as a result. The means of finding news content is to query the dataset. This technique is an increasingly important part of everyday life in the Northern hemisphere, above the digital divide. Whatis.com gives an interesting definition of such 'Googling' as it relates to social networks:

> Googling : Googling is using the popular search engine Google.com to look up someone's name in an effort to find out more about them. You might Google your neighbor, your old college roommate, or someone you've recently met to see what information is available about them on the Internet. Because Google has a ranking system, there is an unsubstantiated belief that the more Google returns a person has, the more important they are. To Google someone, enter their name enclosed by quotation marks in the Google search

box like this: "Person's name". If you Google yourself, it is called autoGoogling or egosurfing.[6]

The point is that launching a query on a search engine as it relates to a specific issue or person is a normalized task. It is part of how we navigate the virtual landscape seeking for prospect and opportunities for action (Ruecker, 2003). Through launching queries we obtain the dataset that constitutes a news space. A news space is therefore the intersection of an anchor issue and a physical news production network in a virtual space. The analysis of news spaces is carried out through a combination of web tools which constitute a new media cartographer's toolbox. In this way we invest in the data (Hockey, 1997) and the results are shown in the form of cluster maps depicting a news space. Three examples of such maps follow, related to conflicts over the Israeli security fence, the Baku-Tblisi pipeline, and the North Korea nuclear issue:

[6] Whatis.com : Re. definition of "Googling" http://searchwebservices.techtarget.com/sDefinition/0,,sid26_gci799367,00.html accessed Feb. 2005.

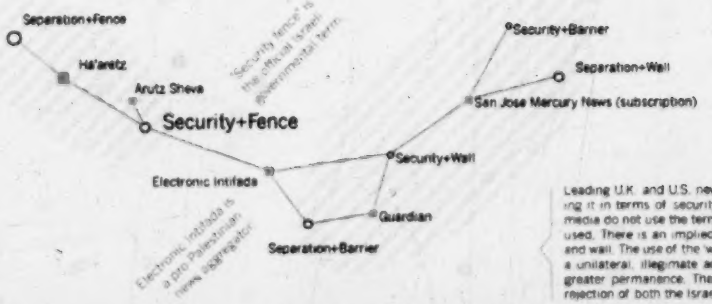
Occupied and Unoccupied Media Spaces

The adoption of separation fence, security fence, separation barrier, security barrier, security wall, separation wall, and apartheid wall in Palestinian, Israeli and Western News.

In not adopting the Israeli fence or Palestinian wall, the Western media leave the (verbally) warring parties to their own devices. The conflict as well as its non resolution are maintained in the media space.

Apartheid Wall, used by Al Jazeerah and the Palestinian governmental press agency, is a fusion of the former South African apartheid regime and the former Berlin Wall. The richer term may be thought of as an appeal. It implies racism, discrimination, a militarized zone, a bleak future. It also places the Palestinians behind a wall. There is no exit.

The right-of-center media (Arutz Sheva) uses the official governmental term, "security fence". The left-of-center media (Ha'aretz) is using the more subtle language of 'separation fence', which does not recognize the security aspect. Rather, it connotes the future establishment of two neighboring states. Ha'aretz is alone in the use of this terminology.



Leading U.K. and U.S. newspapers fluctuate between discussing it in terms of security and separation. The U.K. and U.S. media do not use the term 'fence'. Rather, barrier and wall are used. There is an implied critique in the coupling of security and wall. The use of the 'wall' is a Palestinian framing, implying a unilateral, illegimate action. Wall also provides a sense of greater permanence. The use of the term 'barrier' implies a rejection of both the Israeli fence or Palestinian wall.

FIGURE.1 Product of the Workshop Social Life of Issues 9 : The News About Networks: Making Issues Into Rights?
Analysis: Anat Ben-David w. data by Google News and visualization with ReseauLu by Zachary Devereaux
Design by Anderemedia.nl see www.issuenetwork.org

The News from Baku. "We have few issues with the pipeline."

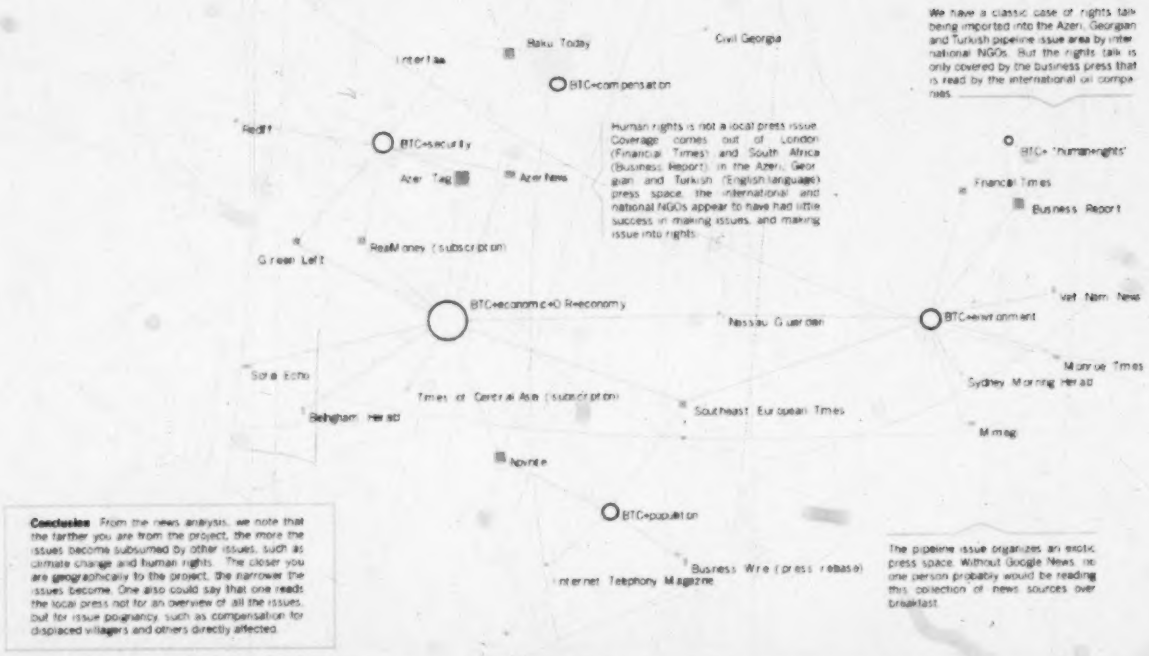

Baku Today
Civil Georgia
Interfax
BTC+compensation
Rediff
BTC+security
Azer Tag
Azer News
Human rights is not a local press issue. Coverage comes out of London (Financial Times) and South Africa (Business Report) in the Azeri, Georgian and Turkish (English language) press space. the international and national NGOs appear to have had little success in making issues, and making issue into rights.
We have a classic case of rights talk being imported into the Azeri, Georgian and Turkish pipeline issue area by international NGOs. But the rights talk is only covered by the business press that is read by the international oil companies.
BTC+"humanrights"
Financial Times
Business Report
RealMoney (subscription)
Green Left
BTC+economic+0 R+economy
Nassau Guardian
BTC+environment
Viet Nam News
Monroe Times
Sydney Morning Herald
Sofia Echo
Times of Central Asia (subscription)
Bellingham Herald
Southeast European Times
Mmag
Novinite
BTC+population
Business Wire (press release)
Internet Telephony Magazine
Conclusion: From the news analysis, we note that the farther you are from the project, the more the issues become subsumed by other issues, such as climate change and human rights. The closer you are geographically to the project, the narrower the issues become. One also could say that one reads the local press not for an overview of all the issues, but for issue poignancy, such as compensation for displaced villagers and others directly affected.
The pipeline issue organizes an exotic press space. Without Google News, no one person probably would be reading this collection of news sources over breakfast.

FIGURE. 2:Product of the workshop Social Life of Issues 9 The News About Networks, Making Issues Into Rights? Analysis by Rafal Lucea, Astrid Mager, Richard Rogers and Andrei Mougotov with data from Google News. Visualization by Aguidel.com, design by Anderemedial.nl www.issuenetwork.org

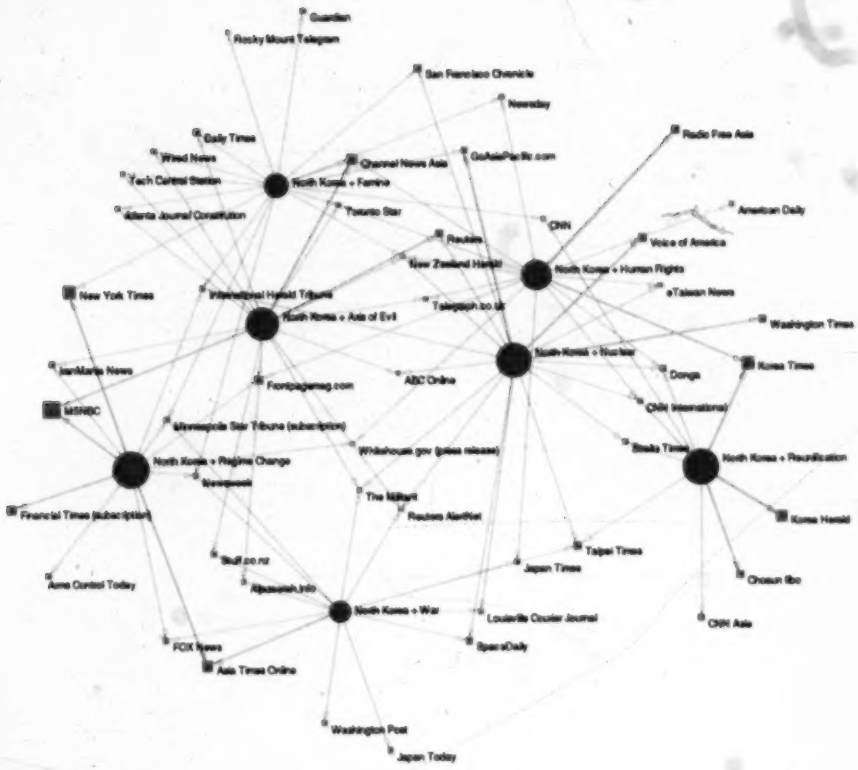


FIGURE. 3 : The English Language News Space Related to North Korea. As available on Googlenews service from October 15th, 2003 to November 15th, 2003. (Our first map of this news space).

D. Issue Networks.

As Noortje Marres has commented, 'An Issue calls into being a community' (Marres, 2002). The attempt to study these communities has been centred on an emphasis on networks as the object of study. The research community pushing issue network theory forward using the cartographic tools profiled in this thesis treats issue networks on the Internet existing in relation to a host of themes, or 'baskets of issues' such as National

Elections, the World summit on the Information Society initiative, International Human Rights, Corporate Responsibility, International Security and Energy and the Environment. Issue networks are often articulated by mapping the colinkage behavior of different actors on the Internet, but they can also be found in other ways such as news space mapping.

To elucidate the concept of an issue network, one can compare a more literal network idea derived from Robert Darnton's "Communications Circuit" :

> Printed books generally pass through roughly the same life cycle. It could be described as a communications circuit that runs from the author to the publisher (if the bookseller does not assume that role), the printer, the shipper, the bookseller, and the reader. The reader completes the circuit because he influences the author both before and after the act of composition.(Darnton, 1982)[7]

Compare Darnton's historical communications circuit to a *re*-modernist Actor Network Theory definition of a network from Bruno Latour (in relation to Ulrich Beck's definition of risk) :

> As to 'risk', it does not mean that we run more dangers than before, but that we are now *entangled,* whereas the modernist dream was to disentangle us from the morass of the past. A perfect translation of 'risk' is the word *network* in the ANT (Actor Network Theory) sense, referring to whatever deviates from the straight path of reason and of control to trace a labyrinth, a maze of unexpected associations between heterogeneous elements, each of which acts as a mediator and no longer as a mere compliant intermediary. For instance, you begin with a T-bone steak on your plate and you end up in the laboratory of a protein specialist showing you the tertiary structure of the now infamous prion, one of the possible causes of the so-called 'made cow' disease. But in the mean time you have visited European Commission bureaucracies, the cattle farmers' unions, quite a few hospitals, and participated in a lot of scientific meetings

[7] Darnton (1982: 67), In MacDonald and Black (2000): pp. 508

> (Barry, 2001). In brief, you have traced a network – a network, to prevent any objection from people not familiar with our use of the word, being not a thing in the world but the path traced by the researcher equipped with an ANT methodology during his explorations. (Latour, 2003).

News space and issue network mapping cartography reside, I would argue, at the intersection of the two network concepts given above. The information politics analytical perspective of which both news space and issue network mapping are part is built upon Vannevar Bush's visionary insight that the path we take to our knowledge would become equally important to the findings themselves (Bush, 1945. Rogers, 2004). The basic idea of mapping networks as they are presented on the Internet applies to both news spaces and issue networks, as it is the existence of the Internet, with both its physical and social architecture that compels cartography related to the subject. News spaces involve networks similar to Darnton's communications circuit, in the form of the news gathering apparatus and readerships. However, it is an effort to understand the ever-changing nature of global civil society as presented through the Internet that motivates issue network colinkage analysis mapping.

MacDonald and Black comment regarding the application of digital cartography to print culture:

> With the advent of the Internet and the Web, resource discovery, in general, has expanded exponentially. The potential for research is increased when the sought-after resources are themselves in electronic form… the Internet is having a significant impact on communication of research work. (MacDonald & Black, 2000).

Like MacDonald and Black, Sean Gouglas's application of modern cartography and regression analysis to Nineteenth century Canadian agriculture is another example

(Gouglas, 2001). MacDonald and Black attempt to explain the potential of modern cartography in relation to the history of the book while Gouglas emphasizes modern cartography in relation to the study of farm successes in the past. Both are concerned with networks, those of the communication circuit of book publishing in the former and those of agricultural production in the latter. Gouglas's example is important for he emphasizes the increased accuracy of such research in comparison to Weberian cultural analysis.

News space and issue network mapping attempt to approach cultural analysis through methodologies more amenable to the statistical focus that Gouglas applies, although there is a strong emphasis on the social. Such statistical rigour is the other side of the coin of Gouglas's cartographic approach, and what should be emphasized is that rigorous cartography can lead to insight involving complex and puzzling cultural constructs. As MacDonald and Black explain:

> …the relationship among the introduction of new papermaking, composing, and printing technologies, the spread and distribution of newspapers, and their combined impact on the development of democratic principles is one of those puzzling constructs. GIS applications can aid in this sort of social analysis of print culture. (MacDonald & Black 2000).

The key difference is that both these research efforts look to the past while news space and issue network mapping looks to the present (& future). There are other differences, insofar as the colinkage and cluster mapping of news spaces and issue networks is not, strictly speaking, a GIS-based research program. This neither excludes the potential of GIS commingling with cluster mapping nor reduces the importance of the automation and methodological parallel. There remains much to be said about the importance of the geographic in news space and issue network analysis.

Turning from the geography of the farm and the geography of the book in the past to the geography of the e-text and colinkage network is a profitable transition. As Ondrejka has emphasized, a theory of place in the digital world is needed and necessary (Ondrejka, 2004). This latest 'rise of the geographic' is also present in the realm of political science. Development and conflict are increasingly seen (again) in relation to geography, and a few principle metaphors of the geographic are key to our observations (Haussman, 2001. Klare, 2001). The first is the North – South concept, and the second is the generally concurrent Digital Divide. To elucidate the geographic in issue network cartography, I have included the following map of *North-South as "Geographical" Actor-Issue Spheres* (Varady et al., 2004). The point is that the geographic resurgence is caught in a tension between the Internet as a digital space where geography is supposedly irrelevant and the rapidly expanding capacity of research to incorporate the geographic as is recognized in relation to GIS. Therefore the traditional definition of cartography as an inherently topographic or positivist enterprise must be questioned and the definition of dynamic mapping explored with news space and issue network mapping in mind. Maps are not only of 'reality out there' but of flows. Greg Elmer's work on profiling and feedback in the personal information economy shows how our behaviors are continually mapped in both a positivist and a social sense. It is through digital profiling of the customer that this duality becomes most clear (Elmer, 2004).

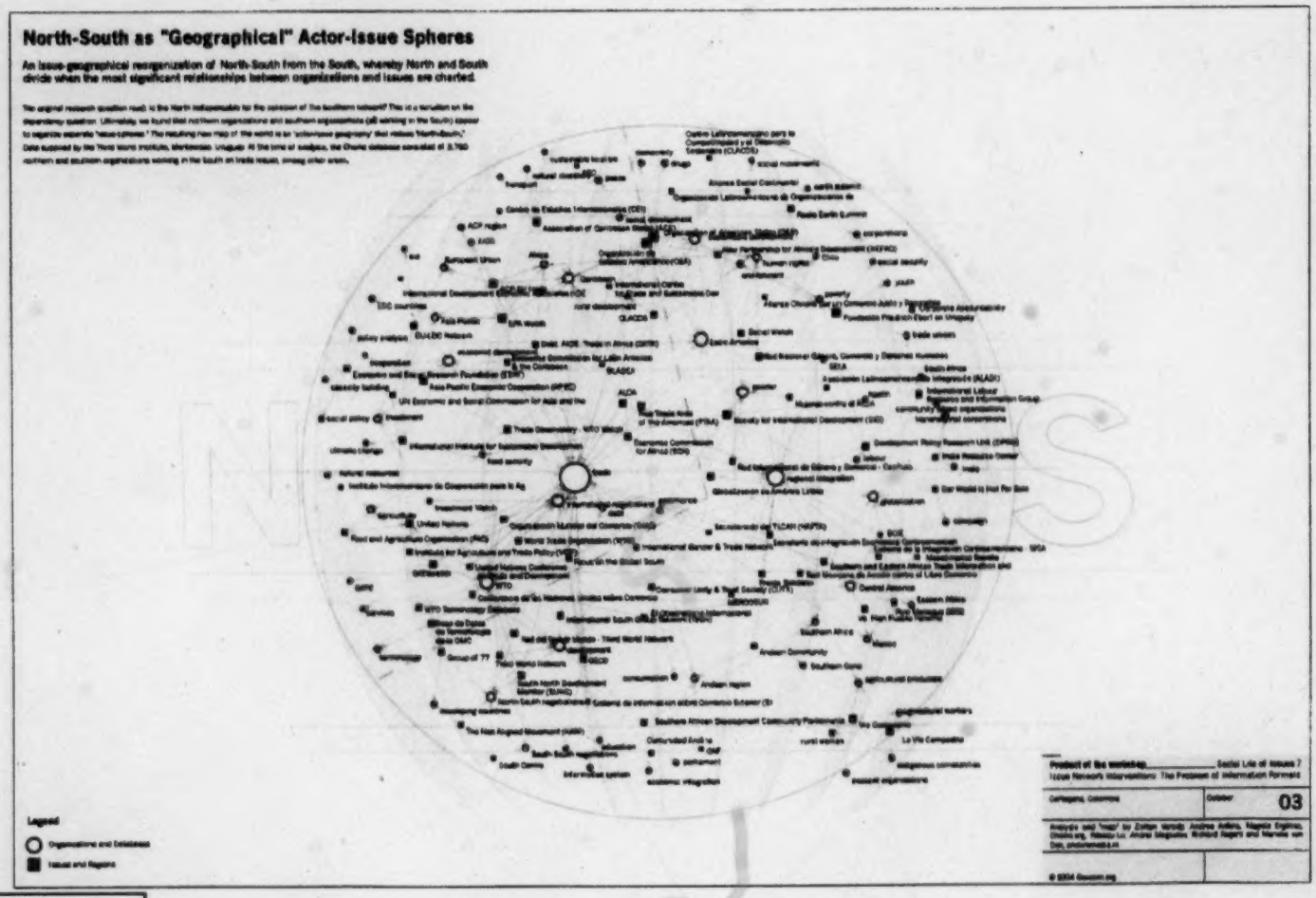

North-South as "Geographical" Actor-Issue Spheres
An issue-geographical reorganization of North-South from the South, whereby North and South divide when the most significant relationships between organizations and issues are charted.
Legend
Organizations and Initiatives
Issues and Regions
Product of the exercise
Social Life of Issues 7
Issue Network Interventions: The Proposal of Information Formats
Cartagena, Colombia
October
03

FIGURE.4

Gouglas, as mentioned above, was concerned with a specific geographic location in the past, namely the Ontario Saltfleet Township. Posing cartographic questions and exploring social issues in relation to a given area is an approach also shared in issue colinkage analysis as the layering of the geographic onto an issue network in the map above indicates. What this thesis emphasizes is the utility of applying new media cartography of this type to political issues. Another example of this interaction between the geographic as it is 'opened' to the virtual place is found in the case of the Ferghana Valley or the Baku pipeline map above. Namely, it is often the case that while a geographic area below the digital divide may not have a presence on the web, issues related to that area do. Thus, while the Web may not have come to the Democratic People's Republic of Korea, the DPRK is certainly visible as an issue on the Web. It is of the utmost importance to assert that complexity is the basic nature of the Web. Consequently our methodologies give relevance to this complexity and assert that it can be addressed as such with the assistance of automation. Such is the case for Korea, where a single people reside in two countries, one below the digital divide, and the other with the highest rates of Internet usage and penetration on the planet (Ebner, 2004).

A second and important aspect of the Baku pipeline and Separation Barrier findings is that the complexity and breadth of issues resonating in a news space or issue network can and often does increase at the international level of the debate and news coverage. This phenomenon was also a major factor in the North Korea findings and thus this thesis holds that dynamic mapping taking place above the digital divide is an important means of understanding the political conflict taking place on the ground. Indeed, this thesis asserts that it may be one of few suitable methods for addressing the

complexity of the conflict as it takes place in international relations, and that information politics constitute a front in the larger pursuit of conflict in international relations.

E. Dynamic Mapping.

Using a positivist perspective to define dynamic mapping would concentrate on the dynamic tendencies in the map itself as an artifact or quantitative depiction of the map's subject. Therefore when considering news space and issue network maps important dynamic features would be found in the format of the maps themselves. Our maps are digital, like GIS maps, and as such are scalable, artifacts that can be explored through zooming, scrolling, projection and the like. Indeed, for the critical reader it must be clear that this thesis has a great deal more to offer when read in its electronic format. Variables in the maps can be selected or deselected; for example, in colinkage maps each node is a dynamic link to a website, while nodes are colour-coded by suffix and linkage networks of a specific suffix can be activated or deactivated to reveal the inner constitution of the network image. Digital maps are also dynamic in their potential to be transmitted and reproduced via the Internet, and the burgeoning supply of maps online could well be considered a dynamic development.

There are further, more traditional dynamic attributes of network mapping. For example the maps are dynamic in that they can include different languages. This is so on account of the translation effect of different languages being present within the operational closure of programming and software systems. The following map is an example of bilingual cartography wherein both Arabic and French are elements of the

data set and cluster map. This map is a brief example of the cluster mapping undertaken by Andrei Mogoutov, whose work has involved cross-lingual cartography including news space mapping, and whose assistance was critical in our production of Chinese language and Japanese language North Korean news space maps (Makdessi, Mogoutov & Vichnevskaia, 1999). This inter-lingual operability means that news space and issue network cartography is dynamic in terms of crossing boundaries between language groups in a rather strict positivist sense. As mentioned, in the North Korea project maps of English language, Chinese language and Japanese language news spaces were produced and will be explored below while Korean language maps were begun but not completed. Korean language news space maps and combinations of Korea-relevant language groups, as in the Arabic / French example, constitute promising avenues for future study.

Graphe C. Discours intégral de Mademoiselle E.

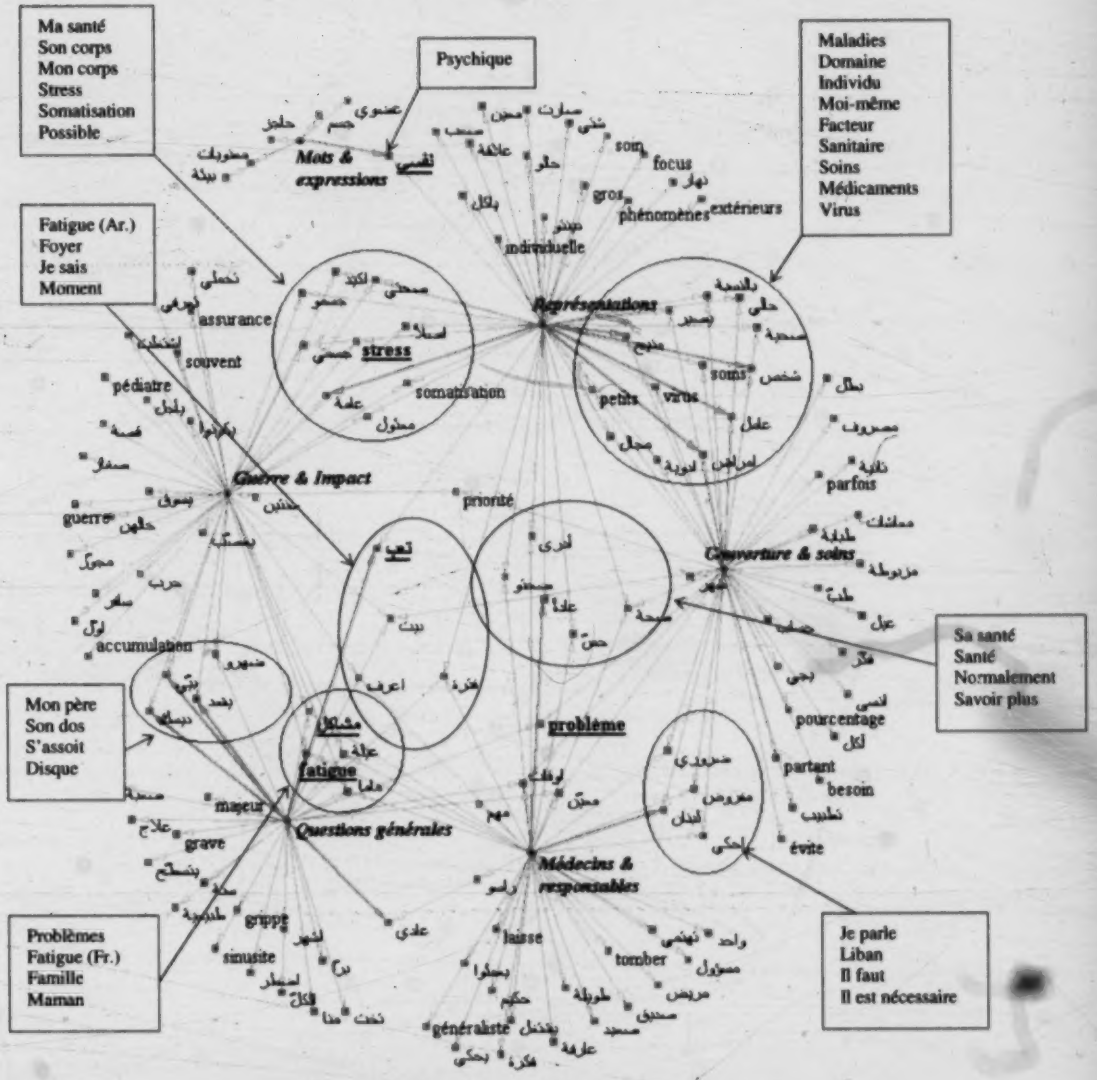


FIGURE. 5 : A French and Arabic cluster map by Andrei Mougotov et al. Showing French and Arabic relational significance of words used by a subject in an interview related to health care system experiences.

Traditional definitions of dynamic mapping can generally be connected to a positivist cartographic outlook. This holds for issue network and news space mapping, as

the technical operability of the maps is certainly a priority. The positivist perspective is best for a systemic understanding of the evolutionary nature of modern cartographic tools. Viewed as a phenomenon within the history of science, it is clear that dynamic mapping, as all software production, involves a dynamism of the evolving tools themselves. It is important, at this point, to emphasize the chronological component of dynamic mapping, as this aspect is best understood within a positivist framework. The news space maps in this paper are snapshots in time, and we have discussed the 'chronological window' of the data sets we are investing in. That said, news space data sets and their accompanying maps have been constructed with an eye to viewing issue network changes over time. The same is the case with regularly scheduling issue network maps. In this way, several snapshots of a network instanciation can be compared in an evolutionary perspective. Thus dynamic mapping is not only an issue within a given digital map, but between maps in a series. Increasing the speed of news mapping technology has been requested by many groups: political parties, researchers, and journalists. Therefore timeliness and capacity to map change over time are key elements of the definition of dynamic mapping.

To properly understand dynamic mapping we must not analyze only the technical positivist facets of news space and issue network mapping. Rather we must also approach modern cartography's conceptual nature, and therefore we turn to J. H. Andrews on J.B. Harley:

> However it is classified, Harley's nonpositivist alternative entails looking not through the map at the world it depicts but inwards or backwards to its maker and outwards or forwards to its readers. (Andrews, 2001:6).

Compare this quote from J.H. Andrews's critique of J.B. Harley's definition of a map as a social construct with Darnton's communication circuit, or Latour's definition of a network. Roger's conception of information politics directly takes up this challenge to look at the maker of a map and its readers and shows how, when considering mapping and the Web, not doing so is increasingly untenable (Rogers, 2004). However, viewing a map as an artifact or an objective quantification should not be mutually exclusive. That socioeconomic networks and power relations are irreversibly involved in quantification is made clear in a fashion more amenable to Andrews's sensibilities by Bruce Curtis, who clearly shows that the enumeration of reality is intertwined with control of the social (Curtis, 1994). What could be more linked to the health of the state than its capacity to map and enumerate?

> Largely through an examination of the 1861 census of the Canadas, I propose a constructivist argument which holds that census information is made, not taken, fabricated through processes that select, and do not simply reflect dimensions of social organization. Census making is a process of abstraction from the lives of its subjects; it is at once a process of discipline and formation which may provide a basis for the establishment of real relations… The knowledge produced through census making is a reflexive state knowledge. It is not knowledge of a population in a pristine condition, but of a population known in and through definite conditions of political subjection. Census making both depends upon and practically asserts powers of state. (Curtis, 1994).

Writing in the same timeframe, Walter Laqueur's discussion of 'Postmodern Terrorism' seems strikingly prescient.

> The advanced societies of today are more dependent every day on the electronic storage, retrieval, analysis, and transmission of information. Defense, the police, banking, trade, transportation, scientific work, and a large percentage of the government's and the private sector's transactions are on-line. That exposes enormous vital areas of national life to mischief or sabotage by any computer hacker, and concerted sabotage could render a country unable to function. Hence the growing speculation about infoterrorism and cyberwarfare. (Laqueur, 1996)

Nearly a decade later, Greg Elmer's considerations of digital profiling themes identified by Curtis resurface in the network society context, and are expanded to the level of international relations.

> While the nation-state is founded on abstract conceptions of citizenry, the techniques used to manage populations (and international relations) have always required knowledge of available human and physical resources. Thus, citizens have always been required to contribute to a demographic knowledge base, in the form of a census, with census avoiders being subject to a penalty of fine or imprisonment. (Elmer, 2004)

The occupation of cyber territory is therefore best understood as a form of digital sovereignty interested in civilizing both the nationally relevant and the internationally threatening netizen. And as the state moves to ameliorate its info-political capacity, so too does the activist netizen in resistance to totalitarianism.

> In doing so, the activists have augmented the effects of their activities on international relations, challenging the management of diplomatic affairs traditionally carried out by states and their diplomatic representatives. (Danitz & Strobel, 2000)

Danitz and Strobel ask whether the promise of the Internet is greater than the reality, and this is echoed in our comparison of opaque security concerns with the ICT myth. Nonetheless, the extension of sovereignty by states into the digital landscape is de rigeur as well as being defensible in the eyes of the state. It extends, logically, to the concept of Netwar (Arquilla & Rondfeldt, 2001). Therefore the worth and capacity of the webby state and international relations is directly related to a capacity to perform information politics. Thus ICT development is not disassociated from or incidental to the constitution of the body politic in modern society. Rather, information politics are a means of creating state agency. The quantification of reality is a nascent form of operational capacity on the behalf of the state on the Web. Our maps are meant to render visible information politics and the collision of competing definitions of reality, after Rogers, a theme that we will return to (Rogers 2004). Here we wish to assert that a constructivist and critical perspective on security matched with systems theory, placing primary importance on the existence of society as a communication, forms the theoretical foundation of this study.[8]

Expanding the capacity to map and the real achievement of dynamic mapping is a valid goal compelled by the evolutionary trajectory of cartography as a system (or more accurately *systems*) regardless of whether one is compelled to advance the growth of cartographic philosophy or simply the positivist accuracy of maps. Dynamic mapping, then, also includes the development of conceptual frameworks for cartography that can be considered as part of a turn past the social, and beyond the postmodern.

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[8] A critical systems perspective in political science often refers to Waltz and world systems theory. While world systems theory is useful for understanding the consequences of Asian leadership in ICT development (Bleha, 2005) as it relates to a core shift in the global economic system towards Asia, systems theory as operationalized in this thesis builds upon the work of Leydesdorff rather than Waltz. Leyedesdorff's is a sociological conception of systems theory which addresses systemic characteristics of distributed processing, self-organization, and selection processes rather than world systems theory of a Waltzian nature. Due to the vague use of "systems theory" from both these perspectives, confusion on this point is frequent.

MacDonald and Black in relation to print culture capture the importance of the potential dynamic mapping offers :

> Numerous aspects, such as the reading experiences of an individual, are qualitative in nature and cannot be "counted" easily. Still, many other aspects can be quantified and positioned in space and time, including, for example, where and when an author's works were first printed, the time from the date of publication of a work to its arrival in particular locations, the political viewpoints of newspaper editors in different regions, literacy rates, and urban concentrations of the printing and allied trades. (MacDonald & Black, 2001: 506).

And here we turn to the work of Andres Zelman, concerned with mapping the Self Organization of the European Information Society (SOEIS) initiative (Zelman, 2002). Zelman's work is important for identifying the scientific community, their communications, and citation patterns as an object of study in and of themselves. Zelman states an expectation that has animated this study throughout:

> …Information and Communication Technologies (ICT) affect the ways that scientists communicate, perform their research, and contribute to the production of knowledge. (Zelman, 2002:51).

E. Conclusions:

This chapter has argued that a definition of dynamic mapping should be expansive, including the characteristics of approaching information in flux through varying new cartographic methodologies. Dynamic mapping is crucial to understanding the information politics of the state and the netizen. As web archivism and epistemology develops apace with multiple visualization and mapping techniques, conception of digital

systems and a theory of place in the virtual environment form an increasingly relevant heuristic (Viégas et al. 2004). Mapping networks is a task that can be considered dynamic cartography, and should be understood as a central part of modern mapping. The parallels across disciplines and the potential of digital cartography should not be underestimated, and maps as artifacts and quantifications of networks, be they social or positivist, will continue to play an increasingly important role in academic research. Zelman's *Media Analysis Toolbox* serves as an excellent example of these dynamics, and is apt to serve as a guide to future research that will challenge the definition of dynamic mapping. Cartography is unified in the assertion *that there are a plethora of subjects worthy of mapping* and as the scope of these subjects expands while the means of mapping concentrate, our ability to define the cartographer's task and the consequences of dynamic mapping must become more refined.

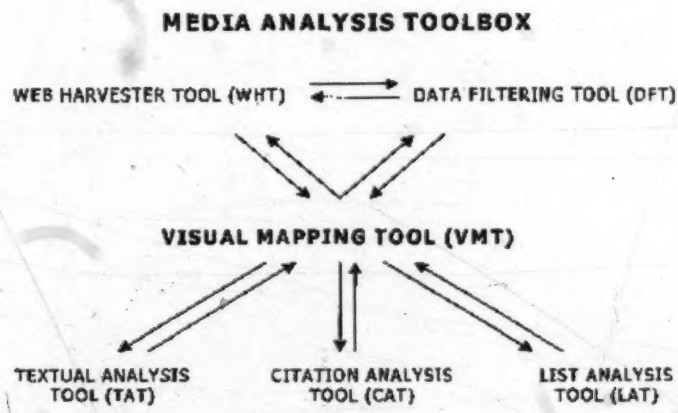

FIGURE. 6: A. Zelman's Media Analysis Toolbox

Chapter Two : Mapping the North Korean News Space.[9]

A. Introduction to the Case Study.

Armed with a critical and constructivist understanding of new media mapping we undertake here to explain in detail the production of the first North Korea English language news space maps. In one day, a journalist, government communications expert, or social science researcher can encounter, monitor and comprehend at most a few hundred news stories. Indeed, everyday in newsrooms over the newswire, in government agencies via the Internet and in university libraries and offices, researchers do exactly that.

The numbers amongst us that do not avail themselves of the aid communications technology offers in such work can certainly be said to be dwindling. And this says nothing of the everyday practice of youth in the universities and otherwise. Indeed, students and the media talk of 'crisis' in the music industry relating to copyright, for example. There can be little doubt that intellectual property rights are facing new challenges, as recently, in Canada, Internet service providers (ISPs) were divided regarding the privacy of their customers when it comes to copyright infringement. Other developments of import are clear, as the technology of profiling makes advances in our daily lives, both in the business sector and at the border. The challenges ICT development

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[9] Portions of this chapter originally appeared in MAPPING THE NORTH KOREAN NEW MEDIA NEWS SPACE by Zachary Devereaux & Wenran Jiang, U of Alberta, 3 February 2004. http://www.cankor.ligi.ubc.ca/issues/162.htm#five and also : Zachary Devereaux & Wenran Jiang : "Mapping the North Korean News Space, an Introduction." The Society for Military and Strategic Studies, 6th Annual Conference proceedings. February, 2004. http://www.stratnet.ucalgary.ca/news_views/papers/smss-proceedings-2004.pdf

pose to our traditional understanding of research and knowledge production are likely to expand apace with such tension points that make the growing pains of the evolution clear.

But communications technology does not only produce crisis, or assure that big brother is watching. Look at what it has done for library systems, or consider the import of widely available on-demand publishing. In countries such as Switzerland, Internet voting is a reality for certain cantons and California in the United States, despite growing pains, moved towards electronic voting systems during the presidential election of 2004 (Saunders, 2004). These positive trends have been much theorized within the dedicated discipline of media and communications studies, but increasingly the social sciences as a whole are faced with the task of confronting the implications of a rapidly changing communications environment. This is certainly the case for political science, and this chapter is an example of employing new technologies in areas of study that have proven problematic for political science in the past.

To briefly explain the technology we are applying, it is predominantly concerned with dynamic cartography as explained in chapter one and news space mapping in particular. We are making maps and telling stories about the maps we make. But our maps do not show the political boundaries of nations or geographic contours upon a landmass. Rather we are mapping the contours of Issue Networks as a part of information politics.

The Issue Network our project is concerned with is related to the importance of the Korean peninsula in international relations currently. The opportunity to study the prevalence of news coverage, within new media, related to Korea is a direct result of the ever–expanding Web. And this opportunity, produced by the Web and its potential as an

object of study is compelling new theoretical and methodological developments within international relations.

> The network as an organizational form and "actor" in world politics requires a different set of conceptual tools than those found in traditional and reflective approaches to world politics. Different tools are required not because networks are new perse but because they differ from hierarchical forms of organization, such as states, that are the core unit of analysis in most theories of international relations. (Deibert & Gross Stein, 2003: 158)

States, NGOs, individuals and new social movements are rushing to the Internet, and instead of a roll-back we witness a land rush. In a reflection of what has been called the 'information blizzard' of modern society the Internet is vast in novel ways. So vast as to seem, in certain aspects, beyond the analytical scope of conventional methods. But in reality, this is not the case as information and communication technologies (ICTs) are giving us the capacity to measure, monitor and visualize huge amounts of data. Our ability to perceive and analyze networks is rapidly expanding along with the networks themselves, leading to considerations of the political in dynamic mapping and cyberspace itself (Crampton, 2003).

Global civil society as a concept offers an instructive example. Conventional theorizing points us in the right direction, alerting us to the issue, but civil society eludes quantification or measurements of depth despite our recognition of its importance. However, we can add depth to our conception of civil society via the study of its existence on the Internet. And the same principle can be applied to our understanding of the complicated relationship between government, policy, public diplomacy, civil society and the media. Thus we took terms related to U.S. diplomacy towards the North Korean nuclear armament issue and examined the issue network on the Internet which they are

part of. To begin with, we looked only at the English language news space as it related to our queries focused on issues considered critical to the North Korean situation regarding nuclear armament, the 'Axis of Evil' and regime change.

B. Web and software tools.

In this section the form of the web and software tools that are at the centre of our project are explained. These tools, developed mainly in Europe, are part of an evolving toolbox at the disposal of the social science researcher.

The first tool to be addressed is our map-making software, ReseauLu, a heterogeneous relational data visualization suite.[10] ReseauLu was developed by Dr. Andrei Mogoutov, and examples of ReseauLu based maps were given above. The software is a data analysis solution, one that consists of several layers. ReseauLu renders clear significant relations in heterogeneous data sets, through analytical algorithms and visualization tools combined with database technology. ReseauLu allows, through a single analytical framework, the exploration of data through three main dimensions: relational, time dependent and textual. Relational mapping has been our first step, analyzing at the outset of our study more than 2700 individual news stories, in maps covering English, Japanese, and Chinese news spaces.

The IssueCrawler is the second tool to be explained. It is a server side tool which 'crawls' the web from a set of starting points chosen by the researcher and returns a network. The method for returning a network is co-link analysis, which locates the most densely interlinked set of sites outwards from the starting points – in a standard sampling

[10] http://www.aguidel.com

method. Often the networks are made up principally of sites with the suffixes: .gov, .com and .org. Hence the name of the NGO: The Govcom.org Foundation that has developed the IssueCrawler software and hosts the service.[11] These results, using visualization software, produce maps that demonstrate the organizations, as well as the linkages between all organizations of the data subset. We shall return to IssueCrawler maps below.

The combination of these web tools makes our inquiry unique, by offering the reader comprehensible representations of complex networks, such as the news space and issue network related to Korea. In addition to this, the integration of network theory, communications studies (Web Epistemology) and political science is compelling and rewarding (Rogers, 2000). Realistically, dynamic and evolving web tools will be a necessary part of the political scientist's tool box in the future as international relations becomes understood as it exists within new media. For example the ability to track and understand network architecture via the web is intuitively appealing both in terms of progressive 'snapshots' and, eventually, as dynamic modeling which can reflect the ebb and flow of diplomacy, public policy, media coverage and global governance.

C. Methodology.

Our methodology is based upon methods developed by Dr. Andrei Mogoutov and applied previously in the Asian context to press coverage related to the detention of Aung San Suu Kyi in Burma.[12] Mogoutov's GoogleNews map was aimed at examining the

[11] http://www.govcom.org
[12] http://www.issuenetwork.org

relation between "Aung San Suu Kyi" and "Human Rights" in the English language Burma news space.

The methodology is based upon the availability of news content from 3, 000 + (& growing) news outlets on the Internet portal Google. On Google News, one can ask the portal for news stories related to any topic. The topics we chose were themed around issues of portent to the Korean peninsula, and the importance of North Korea internationally. Thus we established the following introductory queries of a simple and direct manner, using seven in total:

1. "North Korea + Human Rights"
2. "North Korea + Axis of Evil"
3. "North Korea + Regime Change"
4. "North Korea + War"
5. "North Korea + Nuclear"
6. "North Korea + Reunification"
7. "North Korea + Famine"

D : Semantic Organizing Frameworks and Public Policy

This section describes the choice of keywords for queries. Importantly, "keyword" fails to correctly represent the nature of the rhetorical conflict between the parties involved in the North Korean nuclear issue. That said (we will expand on our conception of semantic frameworks below), the original seven were built around an

understanding of the Korean peninsular crisis as it is presented in English language news coverage. These choices are driven by an effort to have new media sources and news coverage act as the originating location of query choice. This is a methodological imperative of new media research established by the IssueCrawler social life of issues workshop series (Rogers, 2004). Prioritization of original language preference is given to the exact terminology of the campaigning sites and organizations themselves. This is important for many issue debates on the Internet hinge around specific terminology as terms themselves vie for adoption and employment as news frames. This is to say that the prevalence of a given term is seen as an indicator of success or failure in debates waged in new media, while the research prioritizes terms derived from the participants to the conflict themselves (Ibid).

This technique animated the Burma - Aan Aung Suk Yi study and holds for the North Korea study as well. The approach was narrowed and refined in the subsequent Separation Barrier - Apartheid Wall study (see Ch.1 for map). The goal in the North Korean study has been to apply this technique, originally focused on NGO activity, to the public diplomacy efforts of sovereign states. The approach is adaptable to this development on account of the political nature of the communication being equally clear whether the terms are chosen by an activist organization or by a government spokesperson. Message management is based on the intentional control of specific semantics. It is very important to understand the power and systemic importance of terminology in the digital society. Namely, words cannot be considered as passive, as they complete a communications circuit that begins at the back end of politics and is completed by the individual with an information management system (search engine) as

the intermediary. We do not argue that such communication circuitry is new; however, the importance of semantic organizing frameworks in terms of navigating the super-abundance of information presented by the Web is of significant consequence. If the Web is taken as a communication system that performs operational closure through semantic and linguistic parameters, then the importance of semantic organizing frameworks is clear, for they result in selection processes that affect meaning, with the potential to impede or empower individuals (depending on both the systemic and individual capacity to identify opportunities for action in the virtual place). Therefore the original queries of the North Korea study, understood as semantic organizing frameworks of the North Korean news space within the War on Terror, were justified in the following ways:

1. "North Korea + Human Rights" : This term was directly inspired by the Burma news space study, which asked what Human Rights are associated with semantically in the Burma news space. Thus the desire was to ask the same question in the context of the Korean nuclear issue.

2. "North Korea + Axis of Evil" : The Axis of Evil originated in the 2002 State of the Union Address given by George W. Bush. The Axis of Evil speech was a successful effort to link three 'rogue regimes' together as a foreign policy priority, and is an important rhetorical component of the War on Terror. As with the phrase "apartheid wall" found in the Israeli – Palestinian news space map above, "Axis of Evil" uses semantic and historical collusion to invoke both the German-Japanese-Italian Axis of

WWII and Reagan's branding of the USSR as an "Empire of Evil" during the Cold War.[13]

3. "North Korea + Regime Change" : "Regime Change" was considered as a finalist of the American Dialect society's word of the year as was "WMD" which is present in later maps.[14] Regime Change is another term used intentionally by the Oval office in relation to foreign policy that was popularized in relation to Saddam Hussein in Iraq specifically. The term is particularly significant as it gained prevalence after the terrorist attacks of September 11th, 2001. With a broadened scope of unilateral intervention, encouraging and controlling regime change became a power for US foreign policy to avail itself of that has been emphasized ever since, and is a central topic of modern analysis related to North Korea (O'Hanlon & Mochizuki, 2003).

4. "North Korea + War" : War : the result which proved to be the case for one member of the Axis of Evil, Iraq, and the feared result for the Korean penninsula. Indeed hawks in Washington have already supported the use of military force against North Korea (Rennie, 2003).

5. "North Korea + Nuclear" : Nuclear : an obvious attempt to emphasize both the Agreed Framework Between the United States of America and the Democratic People's Republic of Korea of 1994 and Korean Energy Development Organization (KEDO). The

[13] http://en.wikipedia.org/wiki/Axis_of_evil
[14] http://www.americandialect.org/index.php/amerdial/categories/C178/

phrase was meant to address the dual nature of nuclear capability for power as well as for potential nuclear armament.

6. "North Korea + Reunification" : "The term is used with reference to Germany, Yemen, and Vietnam" (Grinker, 1998: 19). Reunification : the antithesis to War, and informed in particular by the reunification of East and West Germany. The term has a strong connotation of the East West German resolution of a similar political division pitting a US backed democratic state against a communist regime.

7. "North Korea + Famine" : The choice of Famine as a query was related both to actual conditions of Famine in the DPRK and also because of the significant news coverage North Korean Famine had received during the year 2000 (Between the first missile issue standoff between the DPRK and the world in 1994 and the DPRK firing of a missile over Japan in 1998, and the later second armament showdown beginning in 2002 with ejection of inspectors, which continues into the present).

E. Considering Semantic Organizing Frameworks.

"Axis of Evil" and "Regime Change" are the most specific in terms of semantics and usage, and as such can be considered some of the most overt examples of a *semantic organizing framework* as a foreign relations tool to be found in our study.

The seven queries explained above led to our first set of findings. They also proved the potential of the methodology and the project, leading to the application of the

technique in the Separation Barrier study. These seven central queries remained stable for the duration of the North Korea study. All of the data collected included these queries, and the total fluctuation in metareturns of these queries has been recorded and visualized (a subject we will return to below). Two points of a technical nature are of note in relation to this fact. The first is related to a lack of total return data in the GoogleNews Scraper, a webtool created during the course of this study explained below. Secondly, this query list of seven central semantic organizing frameworks, while useful and robust, did not maximize the visualization potential of the ReseauLu software being used. As such the query list was continually expanded in response to changing events. The same imperative of taking the language from the source sites was followed. Some newer queries remained constant, while some entered the news space only to disappear a short time later. Below newer queries are considered with their respective maps and contextualized in the total metareturn picture.

We launched our queries, identified as semantic organizing frameworks of the Korean issue network into the GoogleNews search interface at intervals over the course of one calendar year. Google News then searched the 3,000-plus news providers within its service for any mention of these terms in relation to one another.[15] The list of providers is extremely extensive, and ranges from the largest network entities to local providers, and this is reflected in our maps. The number of stories related to each query varies, and these total quantitative returns are considered the metareturn data analyzed

[15] The searching technique employed by Google is algorithmic, and therefore similar to the mathematical backbone of any search engine, or the visualization software ReseauLu that we use to produce news maps.

below.[16] In each specific map of semantic organizing frameworks, we analyze the top 100 stories related to each query as a representative sample of the issue network. Thus the news space maps represent proximity to the front page, which, in GoogleNews, would be the top return spot related to a semantic organizing framework. Penetration upward to the top of return lists is considered *resonance* in the news space, and indeed such success for results is much sought after. Rogers' Preferred Placement: Knowledge Politics began the process of understanding this search ranking phenomenon which would be expanded into the concept of information politics. Thus information politics can be and often are engaged in enacting resonance in a news space. Obviously whether or not a semantic organizing framework with as much portent as "Regime Change" or "Axis of Evil" resonates in a news space is an important consideration of public diplomacy and forms a central component of our information politics analysis.

To return to the method of the first maps: originally the raw returns were taken from Google News in their original HTML format, and then converted to a word-processing and eventually database format. From the database format, the data was input into the visualization software, the visual mapping tool of Zelman's media analysis toolbox concept shown above. The software, ReseauLu, uses algorithms to visually represent statistically significant relations between the elements of heterogeneous data sets. In this case our data set is the top 100 returns related to each query broken down into: -Query –Headline –News Provider –Location of provider –Date of Story –Story synopsis paragraph.

[16] For an idea of the scope, a typical query on "North Korea + Nuclear" in English during the study returned 7020 stories, while "North Korea + Axis of Evil" returned 1970 stories and "North Korea + Famine" returned 78. For total Metareturn data, see Appendix One below.

The resulting news space map demonstrates the most significant providers in relation to the seven queries as yellow square nodes. It also shows the seven queries as red circular nodes, with their size indicating importance. The lines between the entities on the map indicate a topical relation; the presence of a story or stories (and, significantly, their consequent ranking by GoogleNews' opaque system) that correspond to the semantic organizing framework. In addition ReseauLu searches for symmetry in the arrangement of the network in space, and when the data fails to be symmetrical the nodes and links are distributed according to significance (a 'fuzzy logic' algorithm does this work) which gives us a visual interpretation of the relationship between stories, queries and providers wherein proximity indicates similarity.

Over time our mapping project has focused on several types of maps. The first and primary type of map produced was the news space map which demonstrates the relations between the providers and the semantic organizing frameworks. We also produced a second type of map which demonstrates the sharing or re-use of identical content between providers, in other words a news network content distribution map. After the first few maps were produced, we made an additional type of map, a semantic framework map that uses the content as the basis for demonstrating the relationship of the original semantic framework queries to one another. These maps as a group provide the opportunity for several levels of analysis. And it is important to mention that the scale of the project related to North Korea was limited at its outset. ReseauLu can handle the visualization of much larger data sets, and therefore the scale of our query lists was expanded over time in reaction to current events.

Chapter Three : News Space Analysis.

A. English Language North Korea News Space Analysis I.

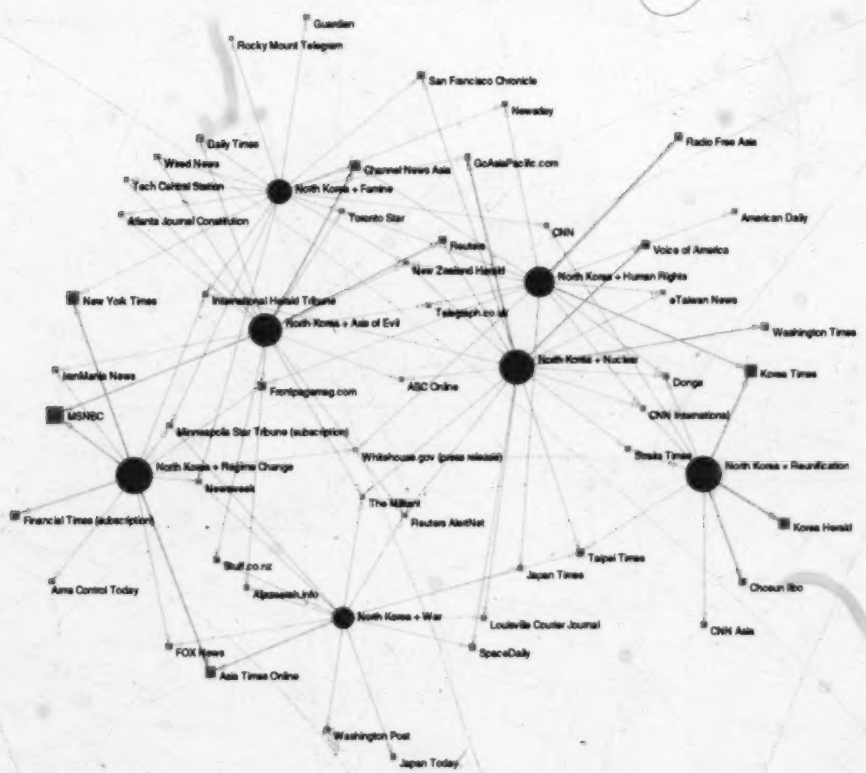

FIGURE.7 : The First NK English Language News Space Map: Semantic organizing queries as related to provider. Data from Googlenews service from October 15th, 2003 to November 15th, 2003. (Our first map of this news space).

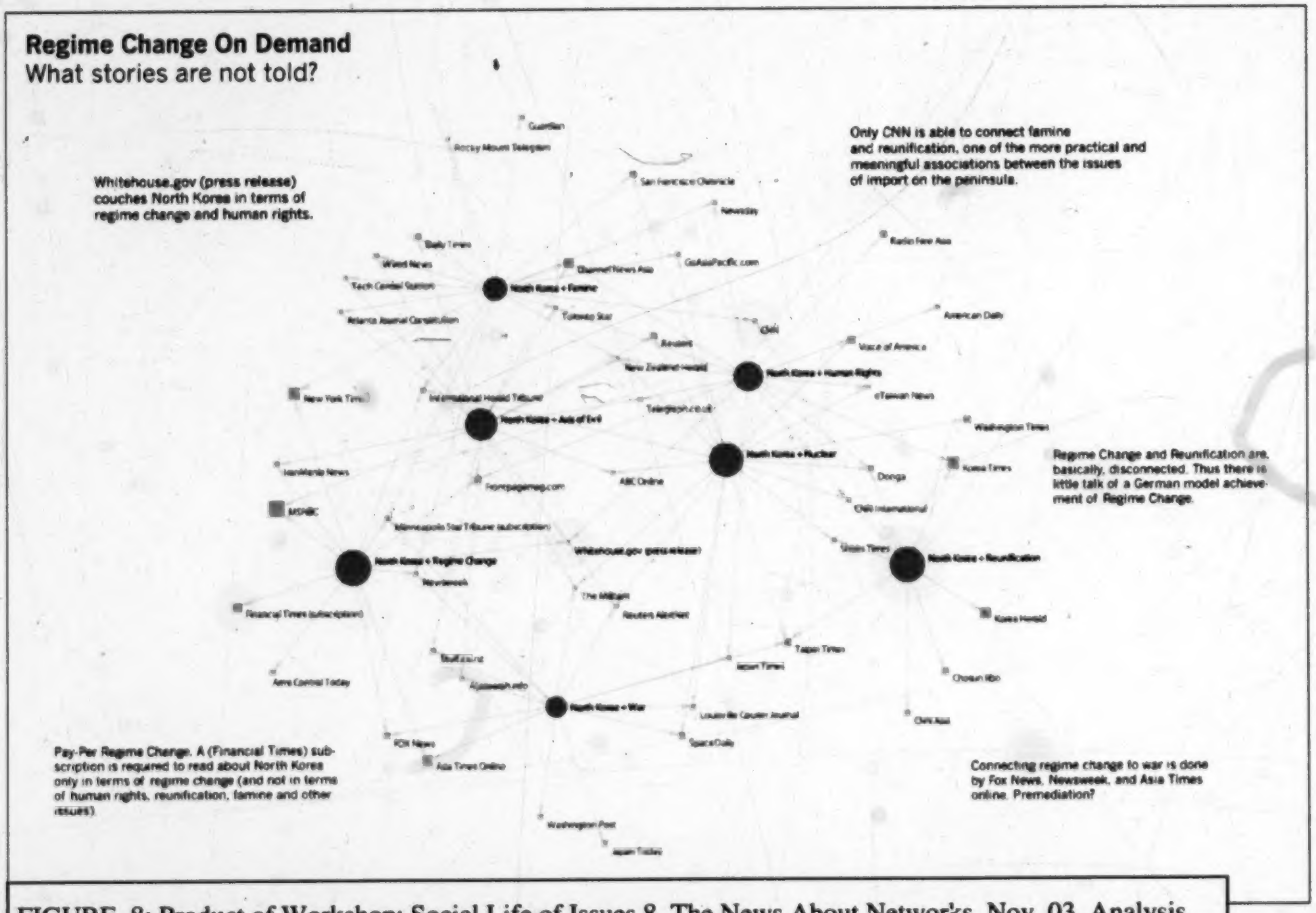
Regime Change On Demand
What stories are not told?
Whitehouse.gov (press release) couches North Korea in terms of regime change and human rights.
Only CNN is able to connect famine and reunification, one of the more practical and meaningful associations between the issues of import on the peninsula.
Regime Change and Reunification are, basically, disconnected. Thus there is little talk of a German model achievement of Regime Change.
Pay-Per Regime Change. A (Financial Times) subscription is required to read about North Korea only in terms of regime change (and not in terms of human rights, reunification, famine and other issues).
Connecting regime change to war is done by Fox News, Newsweek, and Asia Times online. Premediation?

FIGURE. 8: Product of Workshop: Social Life of Issues 8, The News About Networks. Nov. 03. Analysis by Andrei Mougotov and Zachary Devereaux with ReseauLu. Data from Google News Sept. 15 – Nov. 15, 2003. Design by Anderemedia.nl see www.issuenetwork.org

FINDINGS:

1. Whitehouse.gov (press release) couches North Korea in terms of regime change and human rights. This framing strategy is only followed by one other news outlet, Frontpagemag.com. On Frontpagemag.com at the time of constructing this map we found an 'e-petition' which demonstrates the political nature of the site. (The text of the e-petition: "Tell John Ashcroft NOT to give in to the radical left… Help expose the Left's anti-American agenda… Help continue to expose Terrorists in our midst… Sign the new e-petition today")
2. Connecting regime change to war done by Fox News, Newsweek, and Asia Times online.
3. Regime Change and Reunification are, basically, disconnected. Thus there is little talk of a German model achievement of Regime Change in this sample. This also shows that efforts originating from the two Koreas under the heading of the 'Sunshine Policy' are not circulating 'at par' with Regime Change, Axis of Evil, and Famine issues. Indeed, the issue of Reunification is largely delegated in this sample to Asian news outlets. Thus Reunification is a more important issue regionally versus globally.
4. Pay-Per Regime Change. A Financial Times subscription is required to read about North Korea only in terms of regime change (and not in terms of human rights, reunification, famine and other issues).
5. Only CNN is able to connect famine and reunification, one of the more practical and meaningful associations between the issues of import on the peninsula. This

is an important finding in that it shows an American-based media outlet covering the issue in a balanced manner. At the outset of our research one of the questions we posed regarded whether or not American media outlets are uniform in their coverage approach, but here CNN gives an example to the contrary.

6. Aljazeerha.info links Axis of Evil to War, as does Stuff.co.nz
7. In terms of communications based public diplomacy, an ongoing focus of this thesis, we see in this initial map that Radio Free Asia is present, linking North Korea to Human Rights. Meanwhile Voice of America links North Korea to Human Rights and Nuclear. Radio Free Asia was established originally by the Central Intelligence Agency (CIA) of the United States of America, and Voice of America is a long standing public diplomacy tool of the United States dating from World War Two (Unger, 2005).

The total news outlet network for the original seven queries was also mapped. This map does reveal a comprehensive picture of the coverage from this data sample. However, drawing conclusions related to top return rankings is difficult without a more specific level of granularity. Thus the focus of our mapping consistently narrows to reflect proximity to 'front page' in terms of first search returns. Nonetheless the total news outlet network map does provide an excellent means of perceiving the difference between providers that are central in the map and those at the periphery. Centrality or peripheral placement in this map is strongly related to more or less comprehensive coverage in terms of the query nodes.

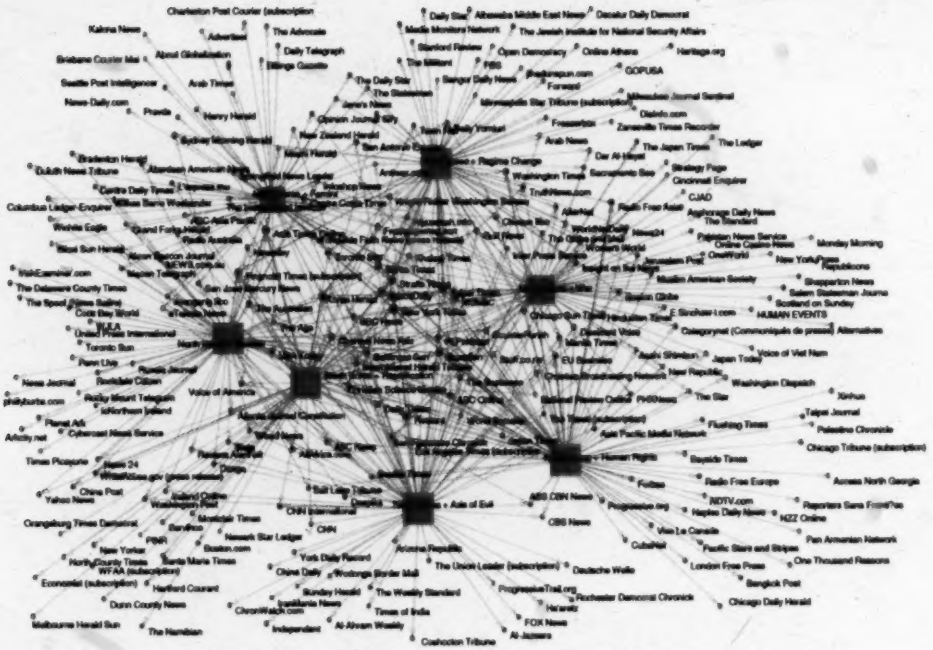

FIGURE. 9: NK-EN 3 : Total News Outlet Network of 7 original Queries

FINDINGS:

1. In terms of public diplomacy: Radio Free Asia links North Korea to Human Rights and is peripheral rather than central to the total network map. Voice of America is central, linking North Korea to Nuclear, Famine, Reunification, Human Rights and Axis of Evil.[17]

2. News space mapping also reveals unusual couplings in terms of framing, as in this map Al-Jazeera and FOX News reside side by side linking North Korea to Axis of Evil. Meanwhile Aljazeerah.info (Regime Change, Famine, War, Reunification) and

[17] Note that, in reinforcement of the assertion that a digital means of interface is best for this type of virtual cartography, a magnification of 500% is necessary to read the linkage behavior and centrality findings for the total network map demonstrated here. Note that at a magnification of 500% in a word processing program all the information in the map is coherent and legible. Such 'zooming in' outside the digital is not possible due to the resolution of the image.

Frontpagemag.com (Regime Change, Famine, Reunification, Human Rights) reside near to one another in mid-centrality.

B. Expansion of the Study.

To give the project scope, the subsequent direction of the project had much to do with the passage of time. Turning a snapshot into a chronology of an issue network was a goal, and proved to be a rewarding enterprise. It is clear that consistently mapping over time provides a new insight into the evolutionary aspect of the issue network related to North Korea. In addition to extending the project over a larger time frame, the mapping of news spaces in languages other than English was undertaken. As far as the maps themselves are concerned, the evolutionary trajectory of the technology is headed towards more interactivity; the utility of maps wherein one could choose a node and surf directly to the site mapped, as is the case with IssueCrawler maps (explained below), is obvious.[18]

As the War on Terror continues, parallel developments of concepts such as the 'Responsibility to Protect' and 'human security' add poignancy to our study of the North Korean new media news space. It is hoped that availing ourselves of new media methodologies can contribute to a better understanding of the ways in which we come to know about the DPRK. Specifically, when it comes to new media, we hope to elucidate understanding of how the West covers the situation on the Korean peninsula, fraught as it is with far-reaching consequences.

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[18] While technical concerns constantly come to light in the feedback loop of methodological development, they will not be addressed here, although some considerations of this type are found below in Appendix One.

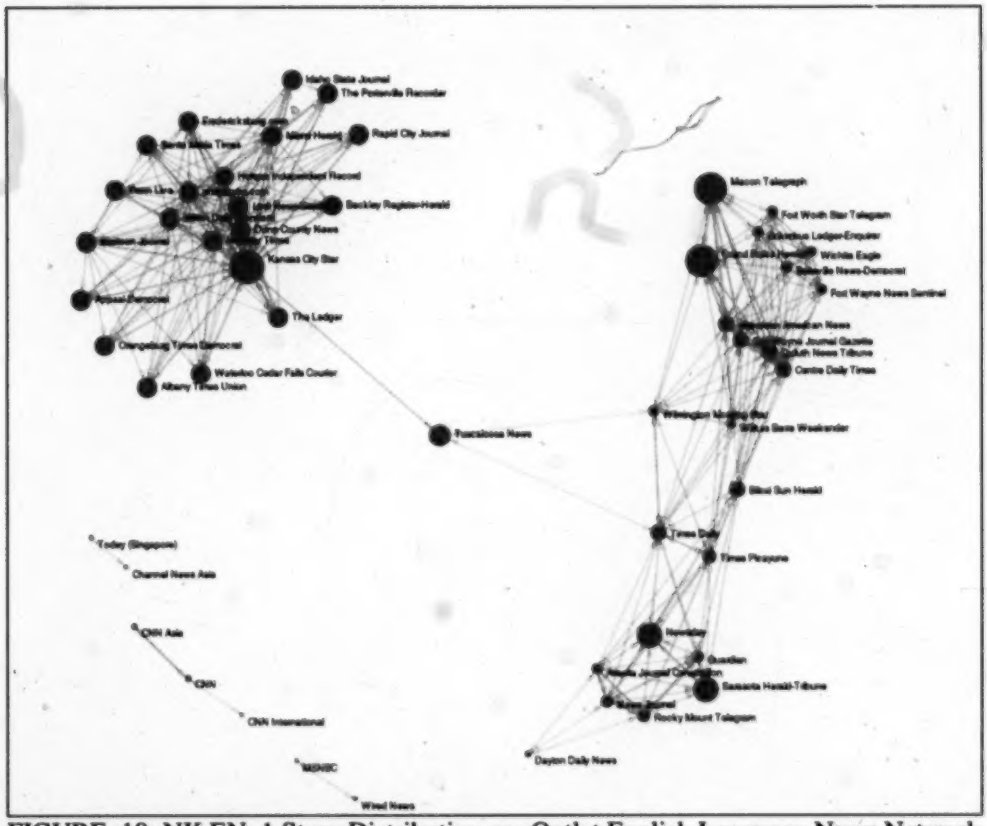


FIGURE. 10: NK EN. 1 Story Distribution per Outlet English Language News Network Content Distribution Map

This map shows the distribution of stories by outlet in the English language news space for the map EN. 1. The map reveals a large amount of content repetition throughout the news network, a normal journalistic occurrence. Importantly, the distribution network is very US-focused, lending credence to the interpretation of the GoogleNews English Language news space as a predominantly American network.

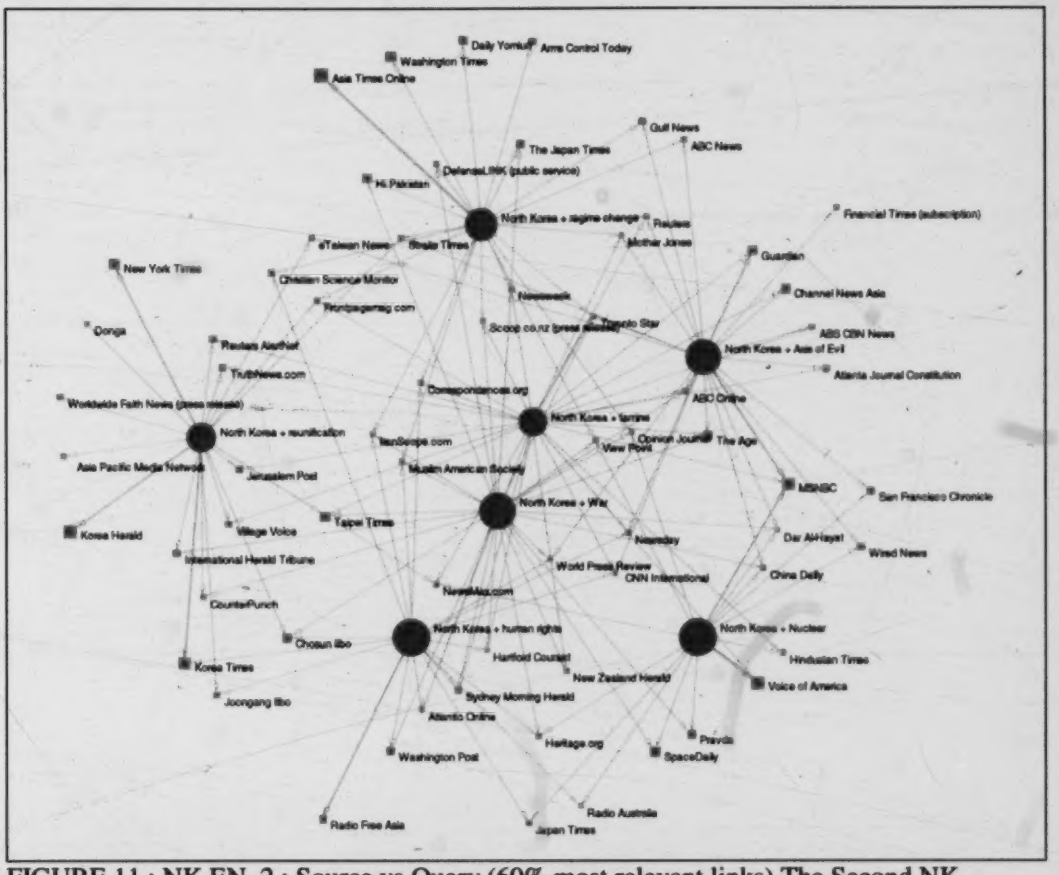


FIGURE.11 : NK EN. 2 : Source vs Query (60% most relevant links) The Second NK English Language News Space Map: Semantic organizing queries as related to provider. Data from GoogleNews service, November – December, 2004.

FINDINGS:

1. In this second English news space map, Regime Change is linked to War by more than just FOX and Asian Channel News. The group making this connection includes Defense Link. In addition to this, IranScope.com and Muslim American Society link Human Rights as well to Regime Change and War. This linkage characterized the behaviour of the Whitehouse and frontpagemag.com's during the previous month. The total linkage of War and Regime Change one month after

this initial finding is greater total. Reunification was also covered with more balance. Voice of America migrated to nuclear and famine from human rights, joined by the Hindustan Times. MSNBC, Dar Al-Hayat, and China Daily all linked Nuclear, War and Axis of Evil in this map, a rather international grouping.

2. Only DefenseLINK, the U.S. army news service, and Hi Pakistan link Regime Change to War exclusively. This is interesting, as DefenseLINK features a 'Defend America: War On Terror' news page, while Hi Pakistan features an 'In the Name of Allah' page. This shows that the North Korea situation is viewed in similar ways from rather diverse perspectives, and is certainly an issue irregardless of geographic location. This finding points to the differentiation that North Korea represents in terms of defining the War on Terror as not being simply a war on Islam.[19] The other outlet rounding out this group that linked Regime Change to War was The Japan Times.
3. The Financial Times shows some stability in its subscription service, continuing to stay with one issue: They were on Regime Change, Now they are on Axis of Evil.
4. Famine is better linked into the news space in NK En. 1
5. Iran Scope.com and Muslim American Society link Human Rights to Regime Change, whereas in Map 1 it was the Whitehouse and Frontpagemag that linked human rights to regime change. Correspondences.org is also doing this while pulling famine into the picture. Looking at the Correspondences.org site, we see that the site is essentially the antithesis of Frontpagemag.org, which linked Regime Change and Human Rights a month earlier. Rather than an e-petition

[19] See Wikipedia.org regarding definitions of "Axis of Evil" and "War on Terror"

equating the radical left to terrorists in our midst, we find a 'newspaper outside of the box' complete with discourse critical of "King George".

6. In terms of public diplomacy measurements: In addition to DefenseLINK connecting Regime Change with War, Voice of America links North Korea to Nuclear and Famine, while Radio Free Asia links North Korea to Human Rights.

C. Chinese Language News Space Analysis.

Due to the international nature of the Korean nuclear crisis, not only English language news, but news in Chinese, Japanese and Korean form news spaces on the Internet as well. On account of this resource and the unified nature of digital communication, our research led to the realization that a comparison of news spaces related to Korea as provided in different languages was both feasible and worth undertaking. Mapping the Chinese and Japanese North Korean news space was a logical progression, applying the same methodology to news networks in these languages. The goal in this case was to test the presence and nature of the organizing frameworks dominating the English language news space in the Chinese and Japanese news spaces. To this end the query terms were translated, and the maps that resulted are examined below.

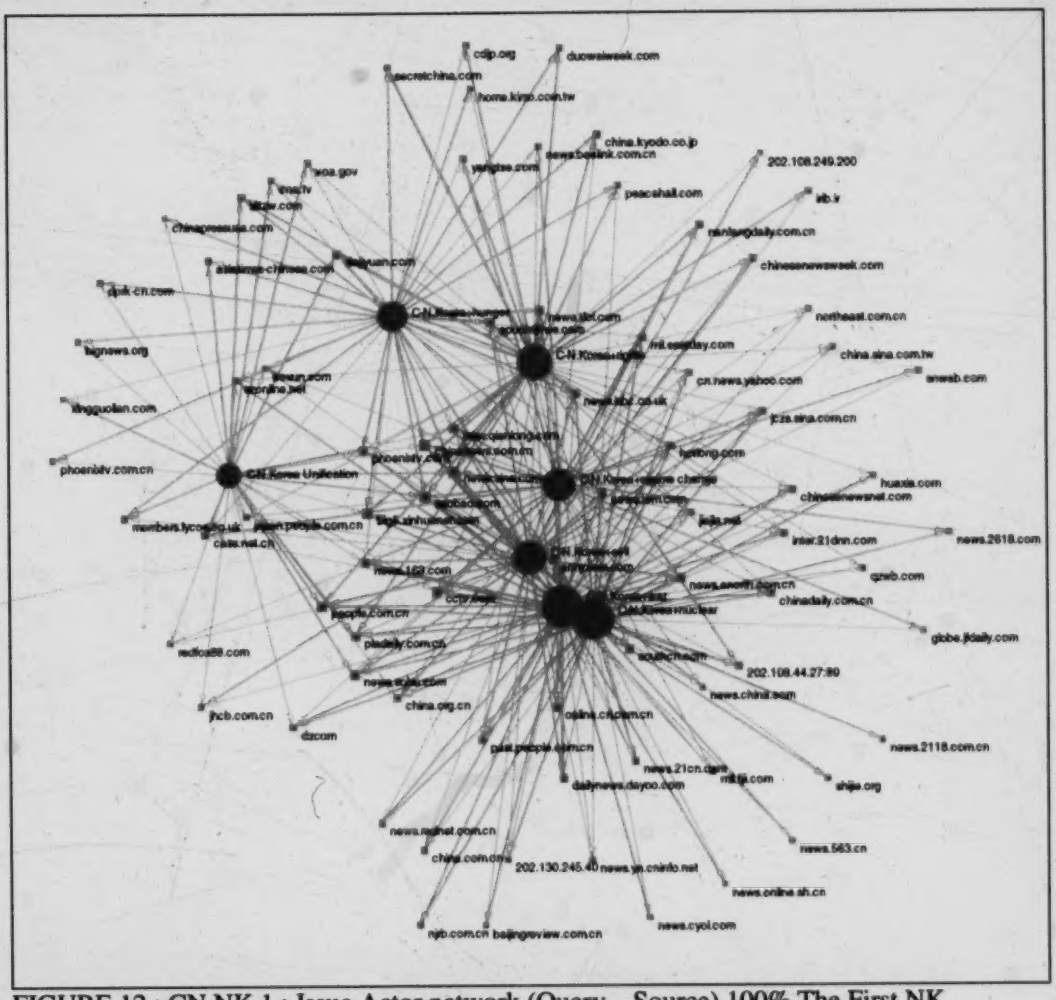


FIGURE.12 : CN NK 1 : Issue Actor network (Query – Source) 100% The First NK Chinese Language News Space Map: Semantic organizing frameworks as related to provider. Nov-Dec 2004?? Showing total distribution (100%)

FINDINGS:

1. War and Nuclear are the most significant queries in the Chinese news space, whereas in the English news space, War is the least significant.

2. Voice of America is present in the Chinese language news space, linking human rights to hunger and reunification. DPRK-cn.com, the China based DRPK service, also links hunger to reunification.

English language coverage is more concerned with Nuclear threat and Regime Change, as opposed to Reunification. Reunification is a predominantly Asian issue, both in English and Chinese news spaces. The Chinese news space is more focused on the long term prospects of peaceful reunification. This brings into question the US assertion that all parties involved in the North Korean crisis resolution have the same interest (six party talks). This assertion of similar interests is not statistically represented in our maps. Our findings reflect more divergent interests, especially regarding the unification issue.

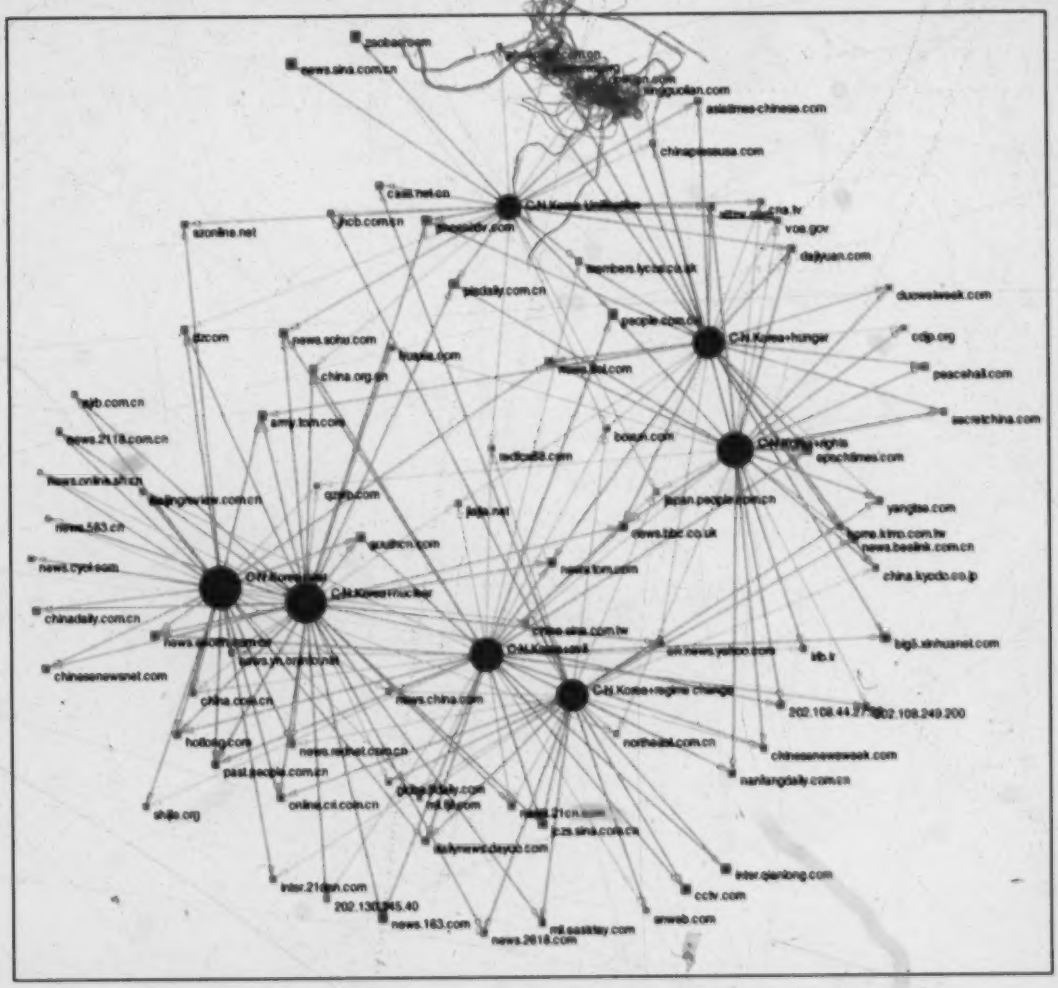


FIGURE. 13 : CN NK 2 : Issue Actor network (Query – Source) 70% NK Chinese Language News Space Map: Semantic organizing frameworks as related to provider. Higher level of specificity: showing most significant 70%.

FINDINGS:

1. War, Nuclear, Axis of Evil and Regime change are linked by conventional knowledge. But this map presents both the exact manner in which these issues are linked by media outlets, and *who* the media actors are in relation to that issue grouping.

2. Unification is the least significant issue in the Chinese news space.
3. Rights resonate significantly as an issue in the news space, and are associated with Hunger and Unification.
4. However, perhaps most importantly, the association of War, Nuclear, Evil and Regime Change to one another is predominant. This is an important finding for Axis of Evil and Regime Change are certainly American-originated semantic organizing frameworks, and the CN NK 2 map shows the success of these frameworks in the Chinese language news space.
5. In terms of public diplomacy in conflict: While DPRK-cn.com, in a grouping at 12:30, links Unification to Hunger, Voice of America, in a grouping near 2 o'clock, links Unification to Hunger and Rights. PLAdaily.com.con, a People's Liberation Army outlet from China, links Unification to Nuclear and Rights. Thus we are presented, through our visualization methodology with a valuable measurement of how public diplomacy efforts resonate in the Chinese news space (this includes rendering visible the interaction between public diplomacy efforts and GoogleNews ranking algorithms).

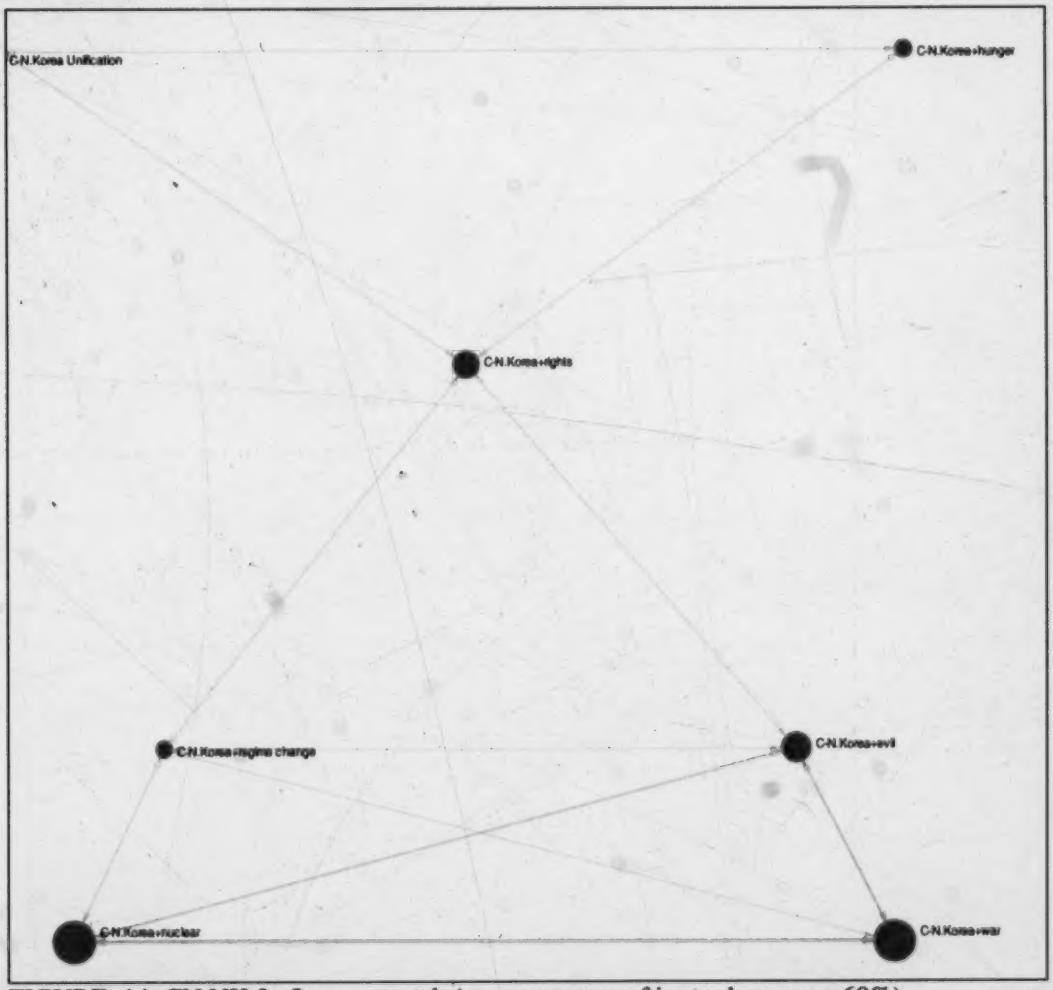


FIGURE. 14: CN NK 3 : Issue network (co-occurrence of issues by source 60%)
Semantic Framework Map, Chinese Language News Space. Nov-Dec 2004??

FINDINGS:

1. This map inverts the dataset, so that relations between semantic organizing frameworks on the basis of news content and GoogleNews returns is visualized. Therefore the size of the nodes relates significance of a given semantic organizing framework in relation to the others within the Chinese language news space. Hence Nuclear and War are the most important frameworks, while Regime Change and Unification are the least important.

Shared relational linkage in the form of a line indicates the relevance or separation between semantic organizing frameworks. Hence we can see that 'If Nuclear, then War and vice versa' holds for the Chinese language news space semantic frameworks, while the thicker linkage line indicates that Nuclear and War are more strongly related to Axis of Evil than to Regime Change. American semantic organizing frameworks (Regime Change and Axis of Evil) are multiply linked to Nuclear and War, hence we can perceive a four part matrix dominating framework inter-relation which consists of Nuclear, War, Axis of Evil and Regime Change (in descending order of importance). The top half of the map shows a three part nexus of 'If Human Rights, then Famine and Reunification and vice versa' but, importantly the most significant frameworks, Nuclear and War, are *not* linked to the Rights – Famine – Reunification nexus.

2. Building on the association of Regime Change, Axis of Evil, Nuclear and War identified above from the CN NK 2 news space map, this issue network upholds the conclusion that these queries form a strong four-part matrix in the Chinese news space. It is interesting to note the significance of two American-originated semantic frameworks, Regime Change and Axis of Evil, resonating in the Chinese news space, but War and Nuclear are more significant yet. Thus Chinese-originated coverage can be said to focus on the Nuclear issue and War as themes in relation to North Korea moreso than adopting the US-based semantic frameworks, although these American framings are still important. Interestingly, there is a relational component between the Chinese, English, and Japanese language news spaces, as the Axis – Regime Change – War – Nuclear coupling resonates in all three. In terms of total returns Nuclear and War were the most

significant queries in both the Chinese and English news spaces (See Appendix One for total War - Nuclear metareturn data and graphing for English returns)

3. Rights are the gateway link between Reunification – Hunger and the nexus of Regime Change, Axis of Evil, Nuclear and War.

Laney commented in 2001 "Developments on the Korean peninsula make it clear that China does not want a war on the peninsula, nor does it want to see North Korea collapse. It is also clear that the development of weapons of mass destruction by North Korea creates a destabilizing force unacceptable to China." (Laney 2001:141). This issue network map upholds this conclusion, as do official Chinese policy statements. However, our map provides a quantification of the policy position in the Chinese news space. Note that Sanger and Broad emphasize that the vague nature of North Korean nuclear capacity, reflected in our study, has been a preferable situation for China, allowing the argument that "North Korea may be bluffing" and reticence in bringing the issue to the UNSC (Sanger & Broad, 2005).

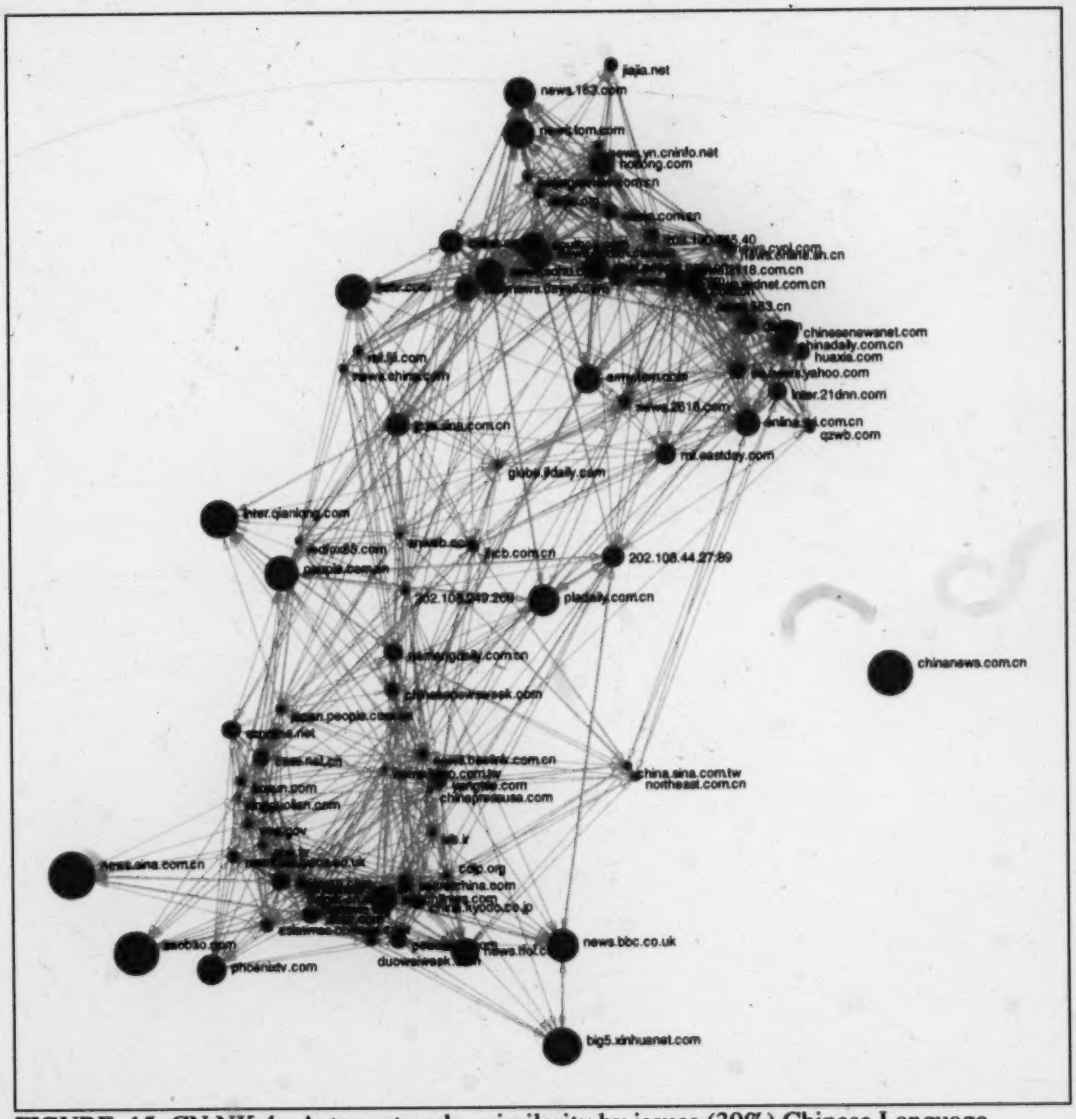


FIGURE. 15: CN NK 4 : Actor network – similarity by issues (30%) Chinese Language News Network Content Distribution Map

FINDINGS:

1. BBC Chinese language news is closely related to Xinhau, an official PRC news outlet. In fact, the BBC is closer to Xinhua than Phoenixtv, Zaobao and News.Sina. These latter three sites form their own grouping. Zaobao is Singapore-

based, while Phoenixtv is Hong Kong-based. Thus while BBC Chinese coverage may be expected to diverge significantly from official PRC sources, this is not the case.

2. In the middle of a large grouping at 7:30 we find Voice of America (voa.gov) firmly entrenched in the Chinese language actor network. Thus, through both semantic frameworks and news content distribution, American public diplomacy has succeeded in achieving resonance in the Chinese language news space.

D. Japanese News Space Analysis.

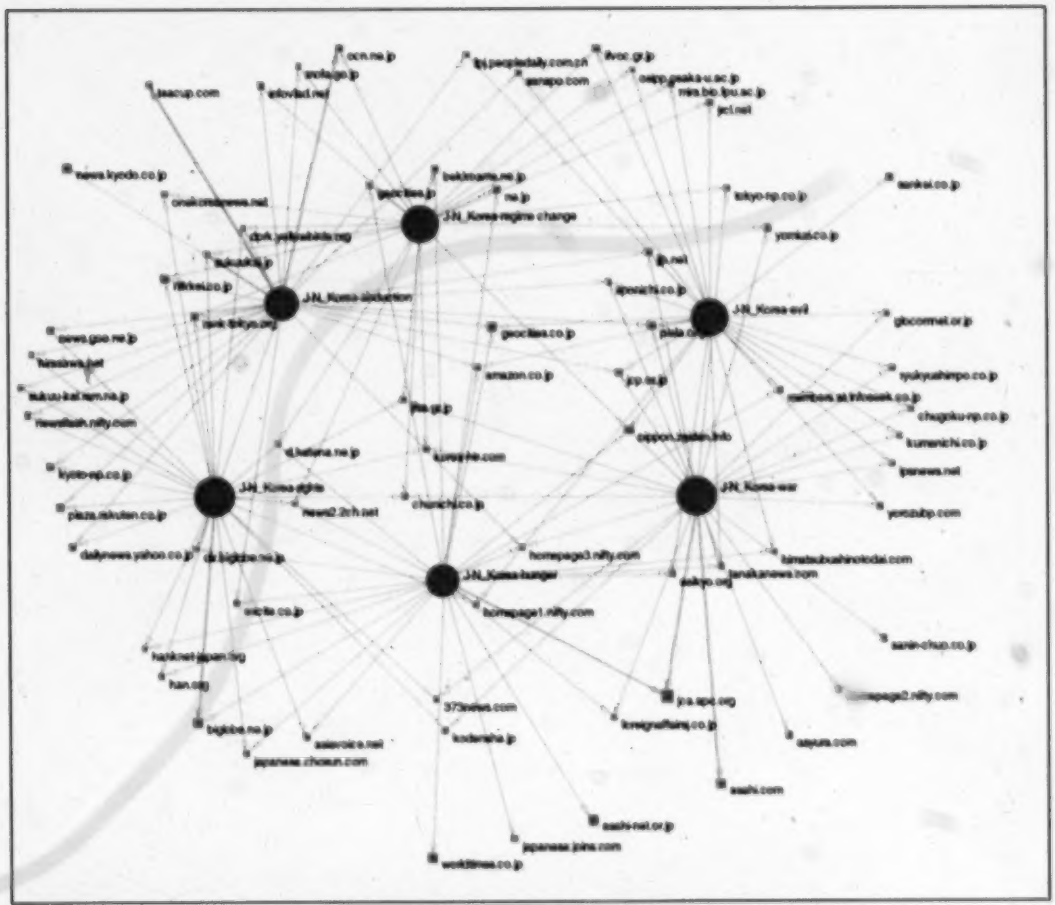


FIGURE. 16: NK Japanese Language News Space Map: Semantic organizing frameworks as related to provider. Showing most significant 70%.

FINDINGS:

1. Abductions are linked to regime change, and in a logical connection to human rights.
2. Regime change is linked to Human Rights.

3. Regime change is significantly linked to Evil, thus the success of the American semantic organizing framework is witnessed in the Japanese news space as well. In turn Evil is significantly linked to War. While causes other than American information politics are likely at play in these linkages in the Japanese news space, our attempt to gauge news space to news space relations via translation shows the presence and persistence of similar semantic organizing frameworks in the English and Japanese North Korean news.

The Japanese news space reflects the unique importance of the abduction issue between Japan and the DPRK. Our findings further support the growing importance of Japanese military normalization as emphasized by Laney in 2001, and reinforced more recently by analysis from the Canadian expert community:

> En effet, la nouvelle génération est de moins en moins sensible aux blessures historiques reliées à la guerre. Par contre, avec la fin de la Guerre Froide, elle est de plus en plus consciente de la menace directe que représente la Corée du Nord, ainsi que des accomplissements de ses forces militaries dans les opérations de maintien de la paix et dans le support logistique apporté à l'armée américaine. (Lapierre 2005, summary of Welch 2005)
>
> In effect, the newer generation is less and less sensitive to historical fissures related to WWII. Instead, with the end of the Cold War, this generation is more and more conscious of the direct menace presented by North Korea as well as the accomplishments of Japanese military forces in peacekeeping operations and logistical support provided to the American army. (Lapierre 2005, summary of Welch 2005: CANCAPS, author's translation)

Animating our considerations of the relation between the Japanese and English language news spaces is Wyn Jones's observation that "In the case of Japan, the most relevant societal security issues are (despite a beginning interest in its own minorities and regions,

most importantly Ainus and Okinawans) those related to a globalizing – U.S. culture and national identity." (Wyn Jones:135). Our Chinese and Japanese news space maps, when compared to the English news space, show that news relations take place and that resonance is achieved between news spaces. Thus, through the intermediary of GoogleNews, semantic organizing frameworks and policy priorities migrate across language groups. This comparative approach yields insight into the foreign policy environment and competing versions of reality related to North Korea originating within the linguistic groups of different members of the six party talks.

E. Implications.

1. There is a relation between policy and media, which is complex. Mapping tools can help us to measure this relationship.
2. The traditional democratic argument about the informed citizen still applies, but now it applies to citizenship with reference to the Web. The scale of information and breadth of networks have implications for policy formation, as well as the engagement of civil society with policy. Communications circuits, which delineate communities, have been difficult to visualize in the past, but with the growing importance of e-texts, virtual cartography can advance the study of such phenomenon.
3. The issues present in the media space relate to one another, and represent issue networks. These issue networks also represent a community brought into being by

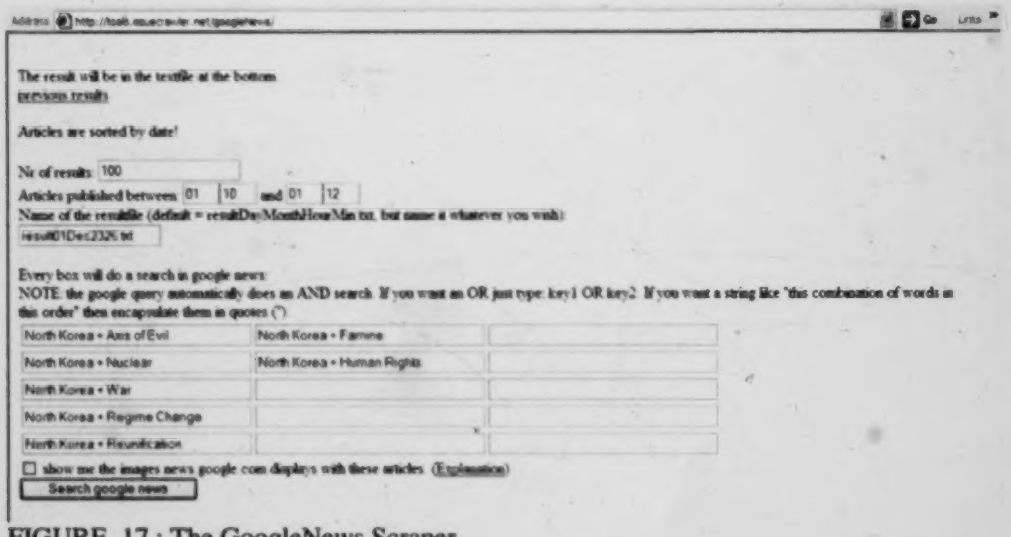
the issues, constituted by governments, organizations, media outlets and individuals.

4. The multicultural and multilingual aspect of the global news space is an increasingly important dimension in relation to which policy makers must engage and manoeuvre. The methodologies applied here allow for a level of complexity and analysis, based on automation, which is nigh-impossible for an individual researcher through conventional methods.
5. Conventional wisdom is refuted or reinforced by the visualizations, but importantly this methodology can lend statistical leverage to conventionally derived claims or overturn unfounded assumptions. Also the accuracy, breadth and speed of the automated analysis represent an evolution in quantitative methods that was hoped for by earlier theorists. It is possible that such quantitative depth can add rigour to the 'science' in political science related to information politics.
6. Mapping over time allowed for the visualization of the systemic features of the network and their evolution. This is important for understanding society as a communication in a continuous process of re-creation.
7. The application of such visualizations is not limited to one field of the social (or natural) sciences. This is to say that the object of study can change from one area to the next, but the worth of the visualization techniques can be demonstrated by this project in the discipline of political science. As the Internet is a politicized domain, the discipline must address the object of study that, increasingly, is also a domain of service delivery, and a means by which the citizen understands

governance (Dennis & Snyder, 1998. Hague & Loader, 1999. Rowland, 1999. Crampton, 2003. Cooper, 2004). Indeed, governance is perhaps inextricably linked to information politics in a network society (Castells, 1996. Rogers, 2004).

F. The GoogleNews Scraper (Social (inter)networking tools)

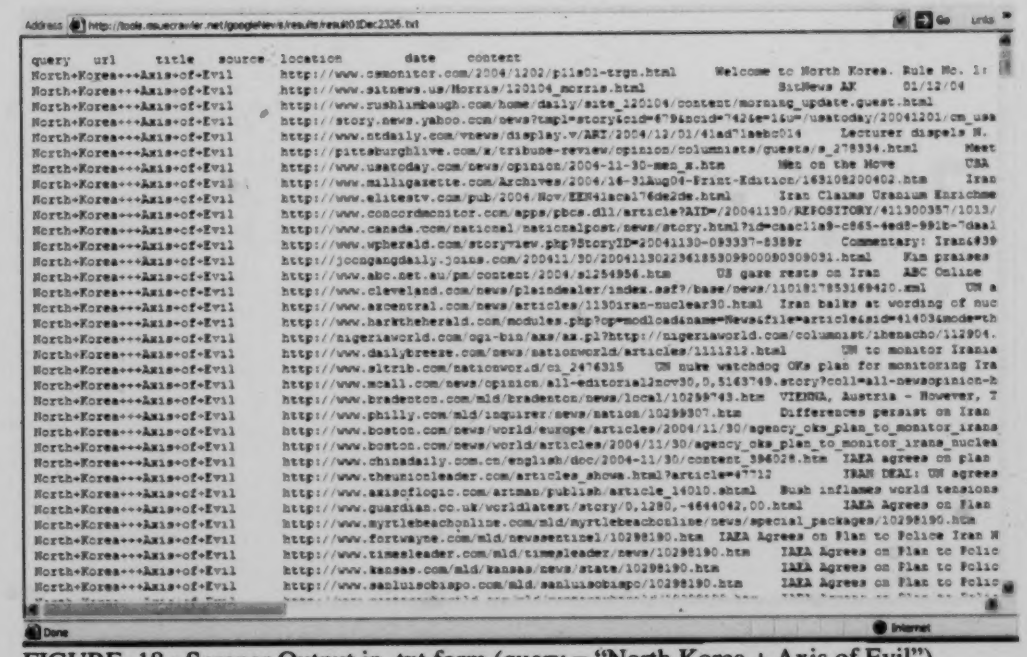
Data was collected from GoogleNews for the North Korea news space maps shown here with the automated GoogleNews 'scraper' from the Govcom.org Foundation, Amsterdam (FIGURE.1). This tool was developed during the course of the study in response to the needs of news space research.


The result will be in the textfile at the bottom
previous results
Articles are sorted by date!
Nr of results: 100
Articles published between 01 10 and 01 12
Every box will do a search in google news
NOTE: the google query automatically does an AND search. If you want an OR just type: key1 OR key2. If you want a string like "this combination of words in this order" then encapsulate them in quotes (")
North Korea + Axis of Evil
North Korea + Famine
North Korea + Nuclear
North Korea + Human Rights
North Korea + War
North Korea + Regime Change
North Korea + Reunification
show me the images news.google.com displays with these articles (Explanation)
Search google news
FIGURE. 17 : The GoogleNews Scraper

Just as one enters queries into search engines such as Google on an everyday basis, we have entered queries into GoogleNews related to North Korea with the

GoogleNews Scraper. The result is a .txt file including the top 100 returns related to each query broken down into: -Query –Headline –News Provider –Location of provider –Date of Story –Story synopsis paragraph (FIGURE. 2).

These parameters provided researchers with data sets related to several topics at high speeds and over time. The results were eventually tailored to linguistic groups of news providers, and the tool continually evolved as part of the methodological system dynamic. The most recent incarnation is the IssueScraper (www.issuescraper.net). Topics treated with the original GoogleNews scraper ranged over: Aceh, Israeli – Palestinian separation barrier, East Asian energy security, Education and Research linkage at universities in the North, Information Design Research and the North Korean nuclear crisis study presented here.


query url title source location date content
North+Korea+++Axis+of+Evil http://www.csmonitor.com/2004/1202/p11s01-trgn.html Welcome to North Korea. Rule No. 1:
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North+Korea+++Axis+of+Evil http://www.azcentral.com/news/articles/1130iran-nuclear30.html Iran balks at wording of nuc
North+Korea+++Axis+of+Evil http://www.harktheherald.com/modules.php?op=modload&name=News&file=article&sid=41403&mode=th
North+Korea+++Axis+of+Evil http://nigeriaworld.com/cgi-bin/axs/ax.pl?http://nigeriaworld.com/columnist/ibenacho/112904.
North+Korea+++Axis+of+Evil http://www.dailybreeze.com/news/nationworld/articles/1111212.html UN to monitor Irania
North+Korea+++Axis+of+Evil http://www.sltrib.com/nationworld/ci_2476315 UN nuke watchdog OKs plan for monitoring Ira
North+Korea+++Axis+of+Evil http://www.mcall.com/news/opinion/all-editorialsnov30,0,5163749.story?coll=all-newsopinion-h
North+Korea+++Axis+of+Evil http://www.bradenton.com/mld/bradenton/news/local/10299743.htm VIENNA, Austria - However, T
North+Korea+++Axis+of+Evil http://www.philly.com/mld/inquirer/news/nation/10299307.htm Differences persist on Iran
North+Korea+++Axis+of+Evil http://www.boston.com/news/world/europe/articles/2004/11/30/agency_oks_plan_to_monitor_irans
North+Korea+++Axis+of+Evil http://www.boston.com/news/world/articles/2004/11/30/agency_oks_plan_to_monitor_irans_nuclea
North+Korea+++Axis+of+Evil http://www.chinadaily.com.cn/english/doc/2004-11/30/content_396028.htm IAEA agrees on plan
North+Korea+++Axis+of+Evil http://www.theunionleader.com/articles_show.html?article=47712 IRAN DEAL: UN agrees
North+Korea+++Axis+of+Evil http://www.axisoflogic.com/artman/publish/article_14010.shtml Bush inflames world tensions
North+Korea+++Axis+of+Evil http://www.guardian.co.uk/worldlatest/story/0,1280,-4644042,00.html IAEA Agrees on Plan
North+Korea+++Axis+of+Evil http://www.myrtlebeachonline.com/mld/myrtlebeachonline/news/special_packages/10298190.htm
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North+Korea+++Axis+of+Evil http://www.sanluisobispo.com/mld/sanluisobispo/10298190.htm IAEA Agrees on Plan to Polic

FIGURE. 18 : Scraper Output in .txt form (query = "North Korea + Axis of Evil")

The query function scraping technology is built on is part of how we navigate the virtual landscape seeking for prospect and opportunities for action (Ruecker, 2003). The GoogleNews scraper is presented here as it was an essential tool for subsequent mapping and represents an automation of the first steps in the methodology as presented above. The development of such a tool and its subsequent application to the Israeli – Palestinian and North Korea studies, as well as other issues such as energy security in Asia, is indicative of information politics. Ironically, despite its usefulness for research the tool was blocked by Google during the course of this study. In June of 2005, one year after its initial IPO, "Google overtook Time Warner to become the world's most valuable media company."[20]

[20] *The Economist*, June 11th 2005, p. 7

Chapter Four : Using IssueCrawling to understand Issue Networks.[21]

While the euphoric rhetoric of the 'ICT revolution' we describe as the ICT Myth and the Schumpeterian burst of the 'tech bubble' can both be considered as past their point of apex, new media theory and methodology compel us to apply snapshot-producing tools. This development can be better understood by explaining the importance of remediation when it comes to an issue or community; the more media the issue network occupies and can be measured in, the greater its perceived importance (Bolter and Grusin 2000). Thus our study engages reflexively in issue network mapping. To explain issue network mapping we will first give an example of the practice in relation to the information design research community, and then present an issue network map related to the North Korean expert community. Our first example of an issue network map is a component of a larger project studying the online presence of the information design and visualization research communities. For this phase, we used the IssueCrawler software from Govcom.org, which allows the user to input several starting sites. The crawler then automatically follows the links provided by the sites, in order to determine which sites are linked to by the starting points, and which sites are linked to by the second order URLs. To simplify the visualization, the starting points can be omitted from the display.

Our starting points involved nine sites, which can be divided logically into groups of three. This strategy was informed by the systems theory insight that interactions between different parts of the network drive innovation forward (Leydesdorff 2000). The

[21] Portions of this chapter originally appeared in Ruecker & Devereaux (2004). "Using Issue Crawling to understand Information Design and Visualization Research in New Media" European Academy of Design Conference Proceedings, Bremen.

first three represent research centres: the Communication Research Institute of Australia, the Human-Computer Interaction Lab at the University of Maryland, and MIT's Media Lab. The next three are sites of professional organizations: the International Institute of Information Design (IIID), SIGGRAPH, and the Graphic Designers of Canada. The third set are research organizations in industry: HP, IBM and Nokia.

Clearly delineated in the first information design research issue network, we find a nexus of the US-led military-industrial complex (lower right-hand quadrant). Somewhat surprisingly, NASA is also present, through its connections to Macromedia. The constituents of the military-industrial nexus are interesting in their own right, including organizations such as the National Science Foundation, the White House, DARPA and Defenselink.

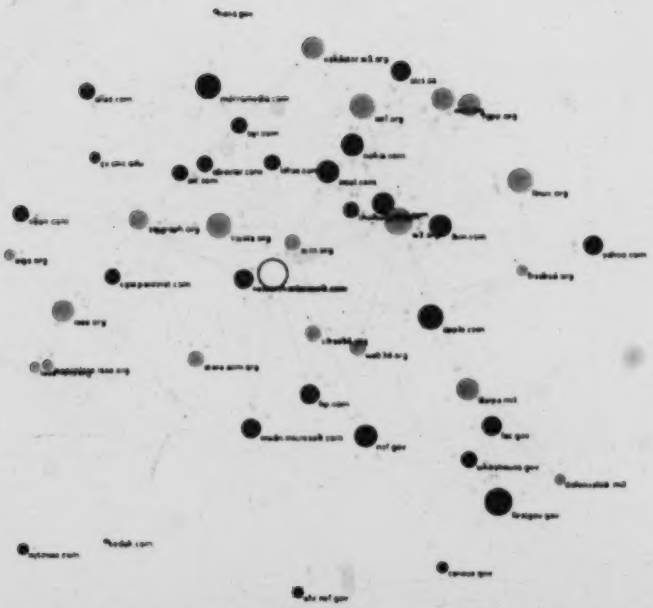

FIGURE. 19. There is only a single university site on our first issue crawl visualization for information design and visualization research (July 2004). The military-industrial complex, on the other hand, was present (lower right), even though there were three university sites in the crawl starting points, and no military sites.

Thus the clear identification of the 'military-governmental' subset within the information design network was possible through Issue Crawling.

Revealing the military-governmental constellation in the information design research community as its network exists online was an important step. When it comes to our analysis of North Korea, making similar networks visible is important on account of the hope that new media inspires in the face of an airtight regime such as the DRPK. The ICT Myth, in its most optimistic form, links naturally to the emancipation imperative of critical IR theory. This coupling is important, and we will return in our conclusion to considering why a critical theory perspective on security is optimal for information politics. However here we wish to assert that the excitement and positivism of new media

methodologies is definitely at play in the issue network of North Korea on the Web. Caution is prudent and over-optimism is to be avoided when considering telecommunications in the DPRK, as Lee Ho-chul has pointed out, but recent developments have also shown the power of the blogosphere acting at a global level (Lee Ho-chul, 2001. Drezner & Farrel, 2004).

> North Korea is perhaps the most blog-unfriendly nation. Only political elites and foreigners are allowed access to the Internet. As might be expected, there are no blogs within North Korea, nor any easy way for ordinary North Koreans to access foreign blogs. However, even in that country, blogs may have an impact. A former CNN journalist, Rebecca MacKinnon, has set up "NKZone," a blog that has rapidly become a focal point for North Korea news and discussion.(Drezner & Farrel, 2004).[22]

Another important site for North Korea is a Canadian effort called CanKor, the Canadian Korean News Clipping Service.[23] Such sites show how understanding the DPRK through new media news is being done. As Drezner & Farrel argue, these are important resources where travellers and academics can bring to light information and views about the DPRK that challenge existing regimes of censorship and official accounts of reality (Ibid.). To expand our understanding of CanKor's location in the North Korea issue network on the Web, IssueCrawler-based crawls similar to those performed in relation to the information design research community were undertaken.

The starting points for these issue network crawls were derived from the CanKor links page, and formed a North Korean NGO network crawl. The resulting visualization (only one of a set is presented here) is an interactive map, within which links can be

[22] http://www.nkzone.org/nkzone/
[23] http://www.cankor.ligi.ubc.ca/

turned on and off, with sites colour coded by suffix and the relevancy of a site to the network depicted by the size of its node.

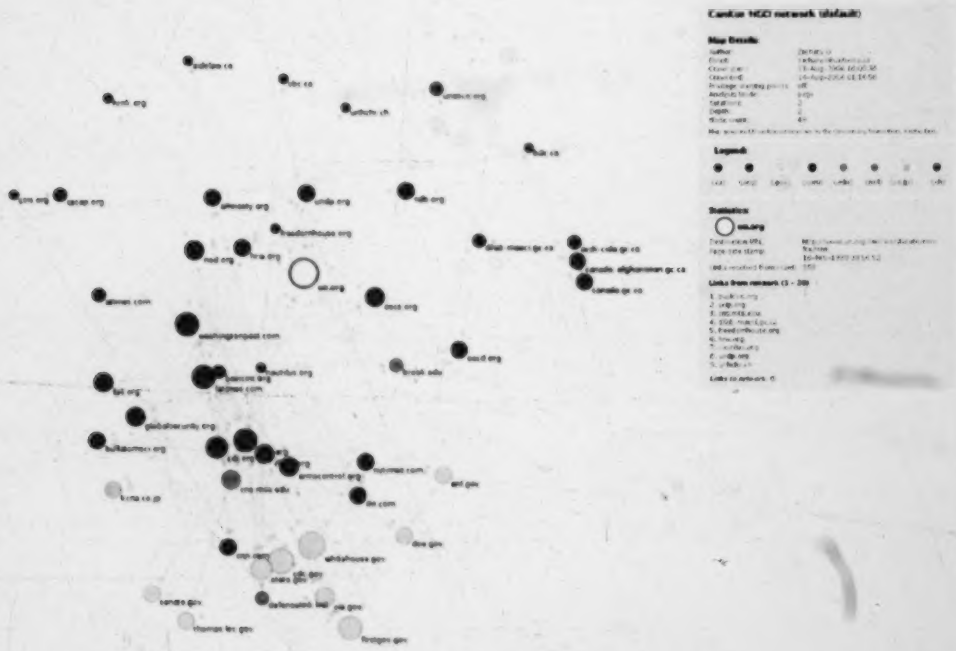

FIGURE.20: The CanKor NGO Issue Network Map.

Again the governmental – military complex is revealed. In this case the nodes representing the group, which includes Whitehouse.gov, CIA.gov, and Defenselink.mil.cia.gov amongst others are shown in yellow. Due to space and time constraints extensive issue network analysis not undertaken here. However, two observations are worth pointing out. Firstly, with the presence of Whitehouse.gov clearly significant in both the CanKor North Korea expert community issue network, and in the

North Korea English language news space, our assertion that new media methodologies represent an important means of studying international relations and public diplomacy is validated. Our study has revealed both the semantic organizing frameworks used in relation to the news space by Whitehouse.gov, as well as the linking strategies of Whitehouse.gov in relation to the North American North Korean expert community.

Secondly, it is questionable whether these two topics, which we argue constitute important behaviours related to international relations, could be as clearly examined by the researcher through any other methodology. And this leads to a consideration of the nature of the research, given that it is dependent upon digital interactivity for the study of international relations. Thus, as Tufte has argued, we hold that the visual display of quantitative information is of important consequence (Tufte, 2003). The visual and interactive display our research is built upon results in an important and valid cognitive style of international relations research that is likely to reward researchers in the future with important insight into conflict as it is carried out in new media and on the Web. This is the inherently 'webby' nature of information politics; we can only explore issue networks and news spaces to their full potential when we are using a computer, with the compatible software, and online. This is a subtle but important point and when we are confronted by Whitehouse.org through these methodologies we find ourselves tempted to stress, as Innis did, that empire is related to the media of communication (Innis, 1972). Vannevar Bush was unbelievably prescient in terms of foreseeing that in the age of computers explaining the route that one took to a conclusion or finding would be of predominant importance. Bush envisioned researchers exchanging with one another the routes (or networks) they traced during their research (Bush, 1945). Thus as we encounter

Whitehouse.gov while tracing networks in and on the Web, we gain a sense of the information politics informing the USA – DPRK conflict, and, additionally through cross-linguistic news space mapping, the Web-based context for relations between the participants in the Six-Party Talks.

Chapter Five : Mapping Security Issues in the North Korean New Media News Space.[24]

One of the persistent unknowns in the War on Terror is found not in the Middle East, but in the Far East. Tensions on the Korean peninsula over the last year have led to postponements of the Six-Party Talk process and have often grabbed the attention of the international community. Security issues are constantly playing themselves out on the new media stage in relation to North Korea. As Oberdorfer has written,

> Because of its turbulent history, its strategic location, and its enduring state of tension, Korea has often flitted across the world's newspaper headlines and television screens in the past thirty years, only to disappear from view when the immediate danger seemed to pass. (Oberdorfer, 2001).

This fact has become a status quo in the prolonged US – DPRK conflict, with particular moments of crisis presented to the Clinton and Bush Jr. administrations regarding DPRK nuclear capability (Clemens, 2003).

A: The North Korean New Media News Space as a Site of Public Diplomacy and Conflict

This thesis concentrates on an expanded, rather than traditional conception of strategy and security vis-à-vis the Korean peninsula. In this sense what these maps focus on primarily is the media through which we come to know of North Korea. New media

[24] Portions of this chapter originally appeared in "Mapping Security Issues in the North Korean New Media News Space" by Zachary Devereaux, presented at Ryerson University CTV school of Radio and Television arts, CANCAPS 2005, and submitted to SMSS 2005.

and the Internet create an ever-expanding domain of knowledge, with content and images in flux. The North Korea new media project is part of a larger effort to study the Internet as both a primary source of information about conflict and a medium through which conflict such as 'Netwar' or 'Infowar' is carried out (Rogers & Ben-David 2005, Arquilla & Runfeldt 2001). The point is that public diplomacy plays itself out, in large part, through media on the Web. The point is that "spin" does count, while one can no longer afford to oversimplify the technical and political nature of public diplomacy and media relations. This is especially the case, as we have attempted to illustrate, when it comes to North Korea, for the realm of public maneuvering and press coverage clearly constitutes a front in the conflict between the United States and the DPRK over nuclear armament. Indeed, all the participants of the Six-Party Talks, the US, China, North Korea, ROK, Japan and Russia, as well as key leadership Figures of each of the individual countries are acting with a great deal of intent on the media stage. One need think only of the significance of semantic organizing frameworks, their deployment and their management to understand this point. This process becomes all the more clear as semantics are updated in the second term of the Bush administration, moving from "Axis of Evil" to "Outposts of Tyranny" with the consequent alteration of priorities and identified countries.[25] From the DPRK side this maneuvering has been countered by the most direct proclamations yet that the DPRK has already produced nuclear armaments.[26]

[25] See "Condoleeza Rice" on Wikipedia.org : http://en.wikipedia.org/wiki/Condoleeza_Rice
[26] CanKor News Clipping Service Issue #195, 11, Feb. 2005. http://www.cankor.liqi.ubc.ca/

B: English Language News Space Analysis II : tracking the resonance of the submarine based missile capacity issue in English online news.

The basic goal is to better understand how security issues related to North Korea have resonated in new media news coverage through dynamic mapping techniques. Two final news space maps are presented here. The first is a map of a specific story within 24 hours of its reporting that appeared on CBC News' "The National" in August of 2004. The story detailed how the acquisition of submarines, combined with existing ballistic missile technology, would enable the DPRK to threaten the United States.

The queries forming this map are as follows:

"Jane's Military + North Korea" (+ inverse)

"North Korea + Submarine" (+ inverse)

"North Korea + Ballistic Missiles" (+ inverse)

"North Korea + Sea Based Missiles" (+ inverse)

"North Korea + Threat" (+ inverse)

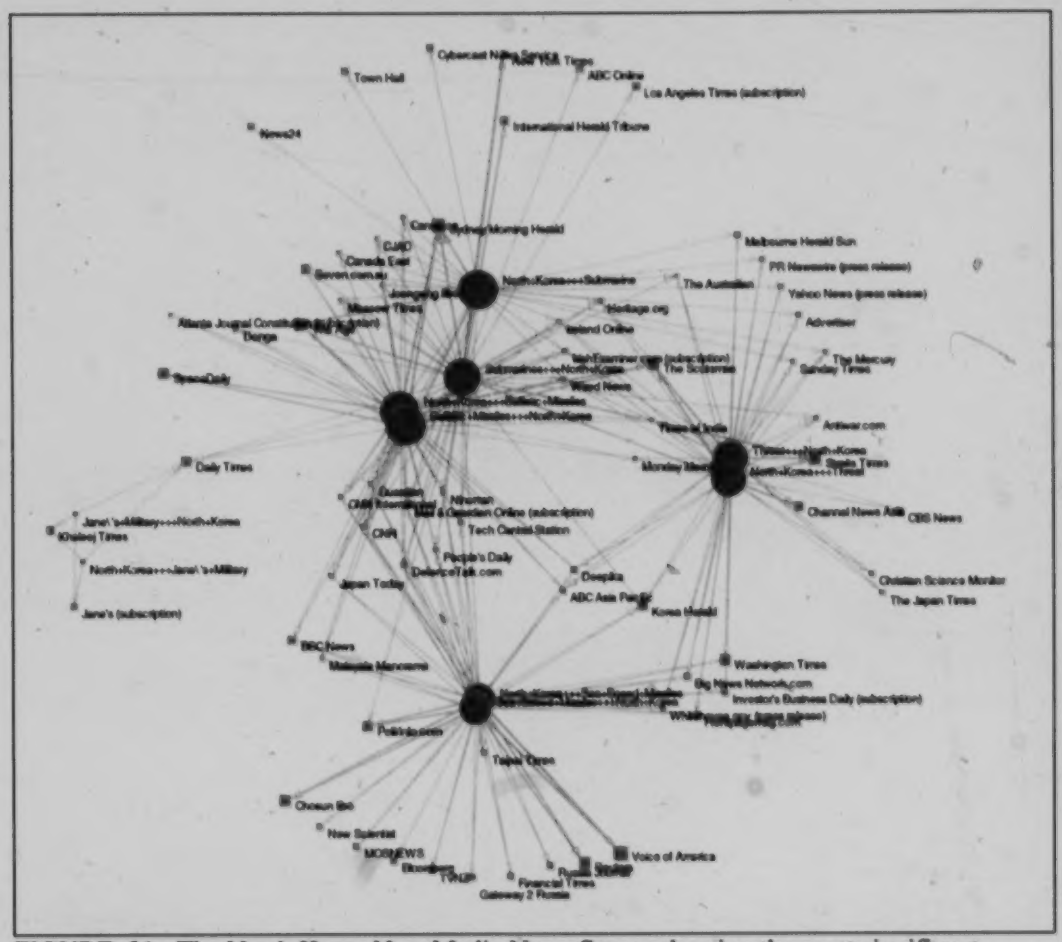

FIGURE. 21 : The North Korea New Media News Space, showing the most significant frames amongst providers with three or more stories related to the issue, August 4th, 2004.
Cluster Map visualization of Scraper output

FINDINGS:

Beyond a broad map of the international press outlets that responded to the stories in different ways what counts within this map is 'reading the fine print.' For when we examine the map at a closer level of granulation we discover the Voice of America linked

to the "North Korea + Sea Based Missiles" query. Two other interesting outlets are linked to this query in the bottom right hand quadrant as well, Whitehouse.gov and Frontpagemag.com. But these latter two nodes connect "North Korea + Sea Based Missiles" with "North Korea + Threat." The Voice of America is an overt public diplomacy instrument, and with this map our analysis of Whitehouse.gov continues to expand. Whitehouse.gov presence in our maps presents an active and engaged approach to information politics by the Oval office, and must be understood in the larger context of the 'real' international relations taking place in the new media between the DPRK and the USA. Frontpagemag.com we mention because in our initial maps made in November of 2003 there was a similar alignment of strategy between Frontpagemag.com and Whitehouse.gov (Jiang & Devereaux 2004a, 2004b). This behaviour constitutes a 'shadow pattern' over time that we have been able to clearly define through new media mapping, and we may add to our conclusions an element of persistence over time that is worthy of note.

It is important to understand this map as a methodological example of the potential news space mapping holds. The data visualized in this map accurately represents the frames used to represent North Korean submarine-based missile capacity in a specific time period. The point to the operation, as was the case here, is to lay bare the framing landscape in a time-sensitive manner. Through such an operation the behaviour of online media outlets as a story breaks can be examined. The greater the efficiency of the visualization process, the more beneficial the mapping technique becomes. This is clear insofar as media scanning has become a staple component of policy analysis in all parts of the industry – media – government relation. Future

development of this methodology and the technology that makes it possible is aimed at the production of news space mapping tools that are as dynamic as the media landscape itself. The map is an example of the effort to produce dynamic mapping tools that can gauge resonance and framing strategies in a time-sensitive manner. The desire for this capacity is the subject of several webtool development efforts such as Aguidel's *MorphicMiner*, Govcom.org's *IssueScraper*, and the Ryerson Infoscape Research Lab's *Webivore.*

Finally, the submarine – missile security threat map led the researchers to clearly identify the linkage between submarine-based missile capacity and a threat to the continental United States as present on the Web in August of 2004. This shows some of the anticipatory capacity of new media methodologies that Rogers emphasizes, as currently, in May of 2005 tensions are escalating regarding DPRK weaponry and capabilities.

> The head of the Defense Intelligence Agency, Vice Admiral Lowell E. Jacoby, went further last week, telling the Senate Armed Services Committee that North Korea was believed to have the "capability" to mount a warhead on one of its long-range missiles. (Sanger & Broad, 2005)

Both Nuclear and War as queries proved in our initial maps of the English, Chinese and Japanese news spaces to be somewhat problematic on account of the breadth of meanings associated with each of the terms. Analytically their association to the other queries is still fruitful, but there are valid questions resulting from the general nature of these terms. For example, nuclear corresponds to both nuclear armament and nuclear power, therefore the node can indicate both issues. Moreover the term has a historical

resonance, which brings coverage related to the Korean war of 1950 into the picture. Hence more specific semantic organizing frameworks were added as the study progressed. The map below shows the English language news space several months into the North Korea and new media mapping project. As can be seen in the map, additional important nodes are present such as Six Nation Talks, Enriched Uranium, WMD, Weapons, Diplomatic Relations, Refugees, World Food Program, and Food Aid. Thus the mapping project has expanded in scope while increasing the specificity of the study.

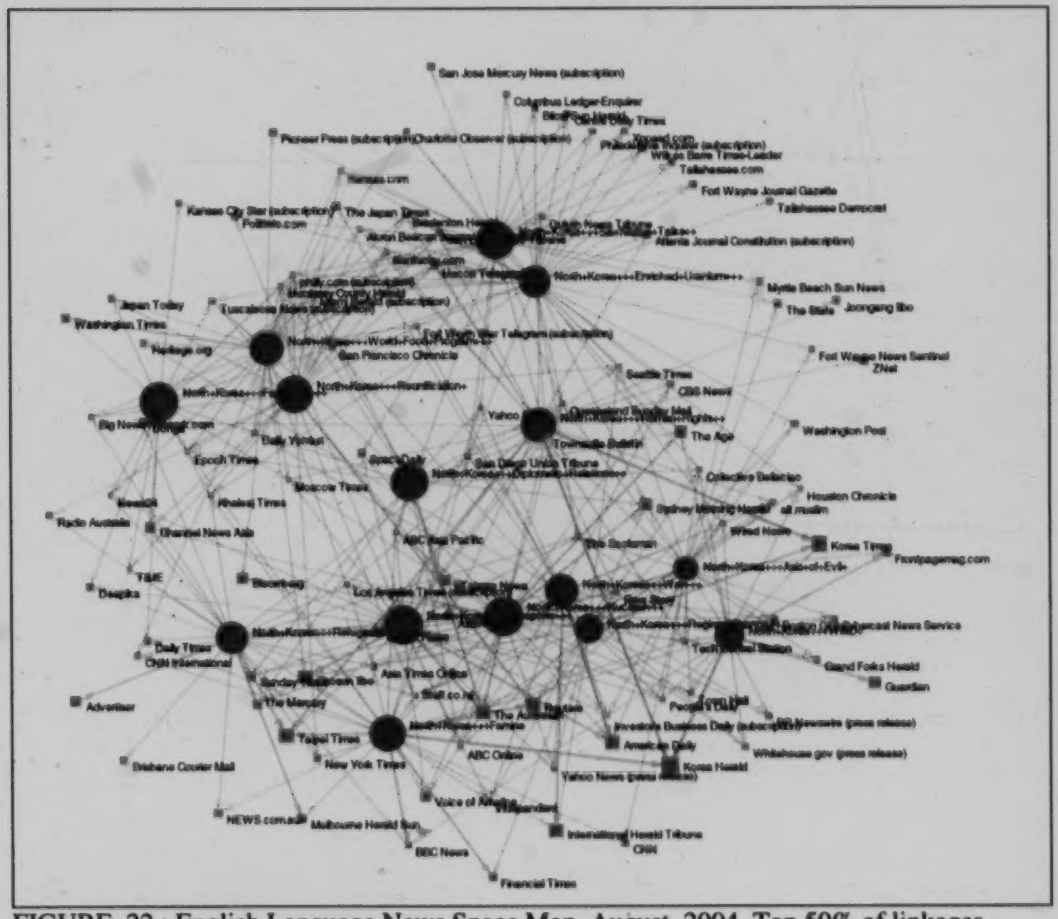

FIGURE. 22 : English Language News Space Map, August, 2004. Top 50% of linkages for sources with more than 4 stories.

Findings :

1. In this map we see several 'Issue Clusters.' Six Nation Talks is strongly aligned to Enriched Uranium, rewarding our specification of the Nuclear query and suggesting an agenda item for the multilateral forum is perceived.
2. World Food Program and Famine are more closely associated to Reunification than Regime Change or War. Thus humanitarian efforts are more stongly associated with the possibility of reunification. Interestingly this echoes the association of hunger and reunification seen in the Chinese news space earlier in the study.
3. Whitehouse.gov is doing WMD, War and Regime Change, significantly more hawkish than a year ago when it was regime change and human rights.
4. Axis of Evil has declined significantly in terms of resonance, demonstrating the fatigue of this original semantic organizing principle. It would soon be replaced, or reborn as the case may be, by Condoleeza Rice's presentation of the term "Outposts of Tyranny."
5. Voice of America links Famine, Weapons, Nuclear and War to North Korea.

C: English Language News Space Analysis III : An American Election. Issues, Policies and Personalities.

In keeping with this technique of expanding the scope and specificity of our North Korea news space maps, a further map was produced with the aim of gaining insight regarding the relation of an American election in progress to the North Korea issue. This

was undertaken in response to the postponement of the Six Nation Talks by the DPRK that was seen as a reaction to the potential for a change in US executive command. The map is based on the following queries:

"North Korea + American Elections"

"North Korea + George W. Bush"

"North Korea + John Kerry"

"North Korea + Cheney"

"North Korea + Complete, Verifiable, Irreversible Dismantlement"

"North Korea + CVID"

"North Korea + Roh Moo Hyun"

"North Korea + Juche"

"North Korea + One Blood"

"North Korea + Sunshine Policy"

"North Korea + Ryongchon Station"

"North Korea + Ryongchon Explosion"

"North Korea + Iran + Libya"

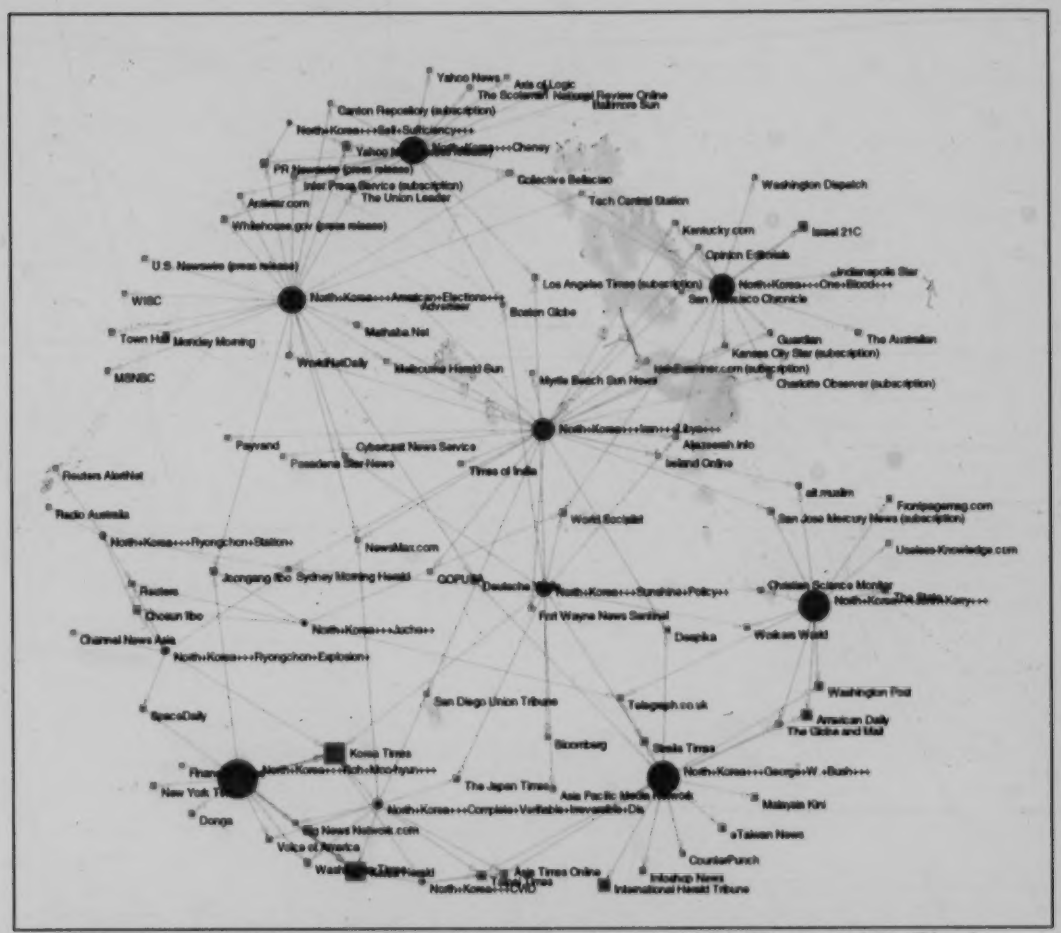

FIGURE. 23 : English Language News Space Map August, 2004. The American Election Frames and Leaders in the North Korea English Language News Space. Most significant semantic organizing frameworks of outlets with two or more stories.

FINDINGS:

1. Whitehouse.gov links Cheney to "North Korea + American Elections" while Frontpagemag.com links to "North Korea + John Kerry."
2. India and Ireland, amongst others, are talking about the query "North Korea + Iran + Libya" and this query was launched in order to gauge the linkages being

made between Libya's change for the better vis-à-vis nuclear ambitions and Iran's membership in the "Axis of Evil" along with Iraq and North Korea. The query is important, because it shows the associations made in the news space that are beyond the scope of the overt public diplomacy efforts of the oval office.

3. Kerry was more strongly linked to a more balanced host of North Korea related queries, such as Libya/Iran, Juche, and the Sunshine policy, while George W. Bush was more closely and directly associated with CVID. "Complete Verifiable Irreversible Dismantlement" is a classic semantic organizing framework delivered by the US administration. In this map Voice of America links ROK president Roh Moo Hyun and Complete Verifiable Irreversible Dismantlement to North Korea.

With the aid of hindsight it is reasonable to suggest that the concentrated approach to public diplomacy and message management by the incumbent US administration was a successful campaign strategy visualized accurately in this news space map dataset.

News space mapping may be a new and rewarding statistically-based means of gauging the influence of key diplomats and leaders in relation to media coverage of an issue. Part of our enquiry is aimed at measuring the impact of these personalities on the news space as the leaders travel both physically through international geography and virtually through the online media landscape. Wyn Jones has asked: "Can the internal politics of the state be ignored, thus allowing analysts to concentrate their attentions solely on the determining influence of the international "realm of necessity"?" (Wyn Jones: 96) Jones concludes: "The experience of the end of the Cold War, undoubtedly the

greatest change in the international security environment in decades, suggests not." (Ibid.) When studying conflict through new media the technical and semantic commingling of domestic and international politics seamlessly in a single medium leads us to strongly support this conclusion.

D. Total Network Map

As our mapping had expanded, and over time consistently brought the semantic diplomacy of several US entities to light, the most significant providers in the English language news space (those with more than 25 stories) were mapped in relation to a total query set of an expansive nature. The map is shown below.

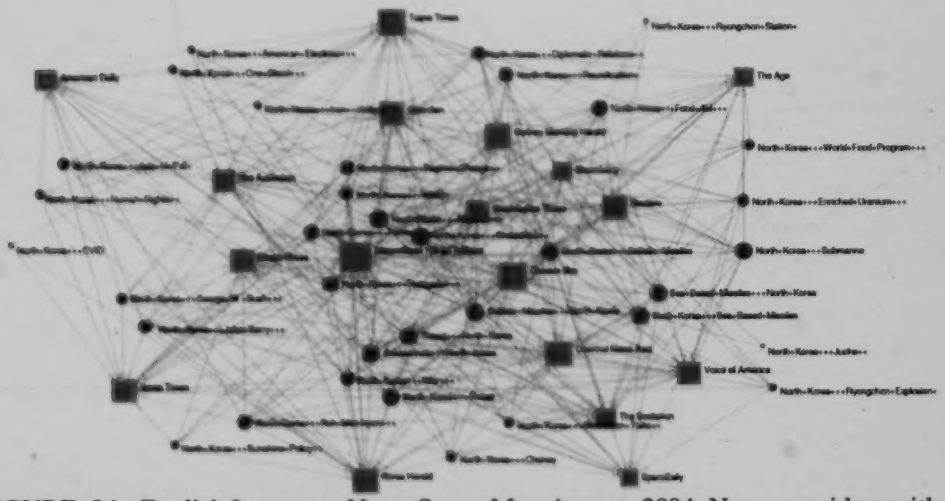

FIGURE. 24 : English Language News Space Map August, 2004. News providers with over 25 responses to semantic frameworks (via GoogleNews).

FINDINGS:

1. War is less prominent and less strongly associated with Regime Change, Axis of Evil and Nuclear.
2. Reunification and Diplomatic Relations are brought together by international outlets, the Guardian and the Sydney Morning Herald.
3. The Voice of America is strongly present in this 'most intensive providers' map, at least as important as Reuters, Bloomberg, and the Korea Times.

E: Implications:

An important reality of news space mapping as a method is that a central aspect of the work produced is the map itself. In this regard a news space map visualizes dynamics in new media related to our issue, North Korea. The utility of the maps resulting from the research is not exhaustively presented here. Indeed the map set has a value in and of itself as a form of web archivism. An important aspect to note in our work to date is that the value of the mapping methodology is usually reinforced best by the presentation of the maps, or the mapping techniques, to an expert community. This is to say that while we have, for example, discussed Whitehouse.gov and Voice of America extensively, there may very well be further readings and implications of the maps than those contained within this thesis.

Nonetheless, information, news coverage, linkage behaviour and diplomacy related to the North Korean issue are all articulated in digital mapping formats within this thesis. These techniques are an example of how we can study new media to reveal the legitimization of "grand strategies" or "grand bargains" regarding North Korea put into play by states or called for by analysts (Gaddis, 2005. Huntley, 2005). The technical

nature of news on the Internet places an object of study at our disposal that can allow for new articulations of the interface between government and media. Operations of public diplomacy and changes within issue networks over time become visible through web cartography, indeed, we have been able to render the new media efforts of Whitehouse.gov much more visible, and hence intelligible, than would have been possible otherwise. Linkage behaviour and the influence of leadership personalities in new media form additional facets of analysis that new media mapping can help us to understand in relation to the North Korean issue. While creating a news space or issue network map brings into being a digital artefact with a great deal of analytical potential, expanding the access researchers enjoy to these kinds of webtools is an important priority. It is a priority that responds to the increasingly important role of new media in the actions of both analysts and actors in international relations, and given the on-again off-again nature of the North Korea issue, much of the action worth watching is taking place on the web (Drezner & Farrel, 2004). A "Grand Bargain" as proposed by O'Hanlon and Mochizuki is gaining popularity and is a logical road map for resolution of the conflict (O'Hanlon & Mochizuki, 2003). The concept has appeared from different perspectives from within the expert community (Huntley 2005 & Gaddis 2005) and presents a best case scenario for developments amenable to the parties to the conflict in a realistic appraisal of the crisis.

Chapter Six, Conclusion : International Relations and Rogers' *Information Politics.*

The importance of ICTs in relation to the DPRK issue has been stressed throughout this thesis, along with advising caution regarding the ICT Myth. However, the argument that ICTs matter and that new media methodologies can lead to rewarding study of international relations conflict is particularly compelling in the case of the Korean peninsula when one juxtaposes DPRK ICT impoverishment with the fact that the Republic of Korea is "The world's most connected place" (Ebner 2004)

Our critical theory perspective on international relations, based in large part on the work of Richard Wyn Jones, is in alignment with Rogers' Information Politics in several ways. The nature of ICTs and the Web that Rogers identifies, such as side-by-sidedness, openness and inclusivity are related to the emancipatory imperative in a critical perspective on IR and conflict. As Hoffman points out:

> Explicitly or implicitly, what lies behind much of the writings in critical international theory is an effort to reinscribe the emancipatory potential within IR – both as a discipline and a social practice. (Hoffman:38)

Importantly, as explained in chapter one, a social and critical emphasis allows our role as map makers in relation to the conflict to be articulated and analyzed. This self-referential tendency is present in the overall project explained by Rogers in terms of web epistemology. As new media cartographers, we have consistently explored the relation between the map maker, the map, the reader, and the overall Issue network. Thus the coupling of critical theory from political science with web methodology and cartography is apt and fruitful. Furthermore, the traditional realist focus of traditional IR is incomplete

and fails to accurately understand the inherently constructed nature of national groups as they are presented by GoogleNews. While news spaces are the intersection of a physical news network and an issue, they are also importantly existent in the single unified medium of cyberspace. Few technological developments have been as widely understood as holding the potential for contesting traditional understanding of identity and sovereignty as the Web. Thus when working with the Web as a starting point, Wyn Jones' assertion that

> Thus critical theorists refuse to accept the present structures of society, both its concrete organizational forms and its more general cultural framework, as immutable givens. (Wyn Jones: 22)

is extremely relevant for our study of the North Korean nuclear crisis.

Rogers' claim that GoogleNews increasingly represents 'officialdom' has been largely upheld by our study. Importantly, we have delved deeply, going past Google and US administration opacity to reveal the diplomatic actions related to semantic organizing frameworks, and have thereby given credibility to our methodology in terms of IR analysis over time and in relation to important issues such as American elections and the boundary between international and domestic politics. Again a traditional understanding fails to match with the webby environment we encountered when it comes to the domestic/international boundary, and this was born out by the news relations we elucidated between the Chinese, Japanese and English language news space. Hence competing versions of reality and transformations of officialdom on the Web as Rogers explains them form a bridge between information politics and a critical perspective on

security.[27] [28]This thesis, and our conception of semantic organizing frameworks, is a study of securitization. Hence we hold with Buzan, Waever & deWilde that

> ...securitization is essentially an intersubjective process. The senses of threat, vulnerability, and (in)security are socially constructed rather than objectively present or absent. Nevertheless, it is easier to achieve securitization under some conditions than under others. (Buzan, Waever & deWilde: 57)

We have concentrated on the securitization of North Korea in general on the Web, and have given a particular example in the case of the submarine based missile threat. Considering the depth of the overall picture of securitization on the Web we have gained through our visualizations, we wish to argue that the non-webby political scientist may be hard pressed to produce such a comprehensive and statistically significant departure point for analysis of the same issue. The application of new media methodologies are expanding and are likely to form a key component of the political scientist's toolbox in the future. Considering the scale and pervasiveness of the Web, such a development promises to be beneficial for international relations.

Rogers concentrates on specific examples of the UK, Dutch and German governments engaging in information politics online.[29] These countries are far from alone in this regard, with Canada, the US, Denmark, Singapore and Australia topping the list of countries engaging in "e-government" (Kapica, 2005). This is evidence of the government-to-cyberspace land rush, and confronted with such a state of affairs the broader point for our study is that states engage in information politics, both back end and

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[27] This is particularly clear when one considers the growing importance of Google as the primary means of interacting with the Web.
[28] Further parallels between Wyn Jones and Latour in terms of conceptualizing modernity are present and have been the topic of study by the author elsewhere.
[29] The suggestion has been made that 'information politics' was formerly known as 'propaganda.' Deeper consideration of the differences between the two constitutes a promising subject of future study.

front end on the Web in particular. Front end information politics occur at the point where new media meets the user; the human – computer interface. The relevant example for our study is found in the form of GoogleNews search returns related to North Korea (linked to, and containing the phrase "Axis of Evil" for example). Back end information politics are the hidden manipulations of information taking place behind the scenes, for example the algorithmic programming ranking search returns related to North Korea (that rank the newer term "Outposts of Tyranny"). Back end politics are therefore further understandable as the linking and semantic foreign policy enacted by the US on the Web in relation to North Korea that our study visualized. The persistence of the IR – media relation is considered as a fact of life for post cold war analysis in international relations, according to David Malone:

> The end of the Cold War coincided with the so-called CNN effect – 24-hour-a-day, seven-day-a-week news coverage. News outlets such as CNN and NewsWorld didn't exist until the 1980s. News was rationed for most of us in terms of a daily newspaper and a nightly news broadcast. And so there was a limit to what got covered and how it got covered. As of the end of the 1980s, what started to get covered an awful lot was the suffering of civilian victims caught in crossfires. But only a limited number of conflicts attracted much attention – because the resources of organizations such as CNN aren't infinite. When CNN and the rest of the networks do cover a particular conflict, pressure builds within our Western populations to stop the killing. (Malone, 2005)

Malone discusses the CNN effect in terms of a humanitarian imperative that leads governments who are averse to risk in international environments to turn to the United Nations. Malone's comments are important for understanding our study as they imply the importance of information politics as a key element compelling decisions about international relations and policy at the UN level. Thus we conclude that the CNN effect and information politics are ongoing factors that should, and can be accounted for and

studied in IR scholarship. Our study has anticipated, in keeping with Malone, the movement of the North Korean crisis towards the UNSC, as well as the pertinent nature of Fukiyama's suggestion that the 6 party talks represent a potentially permanent multilateral forum and a significant policy objective for the second term of the Bush Jr. administration (Fukiyama, 2005).

Rogers also stresses the value of the web as an anticipatory and adjudicating medium. Our study has supported this conclusion. Additionally news space analysis is intended to highlight the manner in which Web news is a site for defining what is real. Thus Rogers' explanation of the Web as an adjudicator of reality harkens back to Watzlawick (1977) and the Web can be understood as an opportunity for foreign policy makers. Rogers explains how "The Web, however, can be made to deepen and enrich the outcomes of a collision between the official and the unofficial." (Rogers 2004:169). Such collision in the case of North Korea takes place on the Web between experts, NGOs, media outlets and the states involved in the confrontation. As a result we wish to link Rogers' considerations of information politics to national and sovereign contestation, as well as international conflict. Neuman's (1996) and Wolfsfeld's (1997) insight was to explain the CNN effect of which Malone speaks, including its primacy for understanding the escalation of modern conflict. We wish to assert that Rogers' insight is that modern conflict increasingly cannot be waged without webby characteristics, a conclusion shared by Arquilla and Rundfeldt as well as Diebert and Rohozinski (Arquilla & Rundfeldt, 2001. Latham, 2003). Rafal Rohozinski summarizes the situation aptly:

> In conclusion, the paucity of research and evidence means we have very little basis on which to predict the likely social trajectories that these technologies may

> engender within the context of building global / local peace (i.e. global civil society? transnational criminal networks? Inter-community bridges of peace? inter-community walls of hatred?) (Rohozinski, 2003).

Thus we hold that Rogers' explanation of front-end and back-end information politics is entirely transferable to our consideration of public diplomacy and the information front in the War on Terror that takes place between national entities via the news space. The Web epistemological and archival aspect of our study as part of a larger research agenda is also important as we attempt to make provider vis-a-vis query distribution in the news space visible. This is to say that understanding can be gained from the rendering of the news space in so far as the alignment of a provider to a set of queries over time becomes legible. This has certainly been our finding in relation to Whitehouse.gov, Frontpagemag.com and Voice of America. Hence, growing out of Rogers' focus on international civil society is a global politics level of analysis related to sovereign (and not so sovereign) relations and conflict.

It is significant that Rogers articulates the concept of a "glue" holding issue networks together. What is the glue of the North Korean nuclear issue? What enters the North Korean news space and leaves it? While significant events such as the Ryongchon and Yanggang explosions have failed to sustain themselves in the North Korean news space[30] and do not resonate across national groups, we conclude that actual events have had less success in relation to defining the North Korean nuclear crisis than semantic organizing frameworks. It is the dynamics of the semantic organizing frameworks that our methodology has enabled us to articulate. Our set of visualizations lead to the conclusion that policy and public diplomacy are directly and significantly invested in the

[30] To say nothing of similar resonance failure for the Sunshine Policy, Juche, and Famine.

evolving semantic organizing framework of the conflict. Semantic frameworks are a means of interacting with the wealth of information related to North Korea available on the Web, and as search terms ranked by intermediaries such as GoogleNews, semantic organizing frameworks are an important part of modern communications circuits. Indeed the scale of the information available, and the diversity of its authority and relation to the parties involved is marked by complexity, intersubjectivity and competing versions of reality.

The English, Chinese and Japanese news spaces are constantly evolving and are not subject to absolute control by the parties to the conflict (indeed GoogleNews has more control over access to these news spaces), and flux is certainly at play in linkage behaviour as well. Therefore a critical security perspective is extremely useful because it allows recognition of this constructed and multiplicitous state which is nonetheless *surely* an operating environment for public diplomacy. Our mapping has showed the strength of the incumbent US administration in the North Korea news space. Moreover we have demonstrated a persistent presence of Whitehouse.gov and Voice of America as well as persistent 'news relations' around parameters set by the Oval office at play in Chinese and Japanese news spaces. Therefore we have grounds to conclude that US administration has successfully pursued information politics in the news space via personality and public diplomacy, while simultaneously carrying out information politics in the North Korea issue network through linkage behavior. And this process, clearly visualized above, shows no signs of stopping and is constantly being reinvented. This much is clear in the recent deployment of a new semantic organizing framework by Condoleeza Rice.

> Condoleeza Rice's "outposts of tyranny" may join "axis of evil" as one of the most dubiously memorable phrases to come out of the Bush Administration. In her confirmation hearings last week, Rice listed six "outposts of tyranny" around the globe--Iran, North Korea, Cuba, Burma, Belarus, and Zimbabwe.[31]

Thus the prioritization of information politics related to North Korea as a critical policy issue for the second term of the Bush Administration is clear. This fact has been reflected in the expert community in terms of "Grand Strategies," "Grand Bargains," and a 'Return of Multilateralism' (Gaddis, 2005. Huntley, 2004. Fukiyama, 2005.)

Recent events have upheld our analysis of new media as a front in the conflict with "Condoleeza Rice failing to bring DPRK back to the table" and DPRK trying to influence the semantic framework of the conflict by demanding an apology for "Outposts of Tyranny."[32] In this example we find our conclusion carried out 'in miniature.' With the power of personality (Rice) compounded with semantics ("sovereign nation"), the threat matrix ("nuclear capability"), and a response in the media domain by the DPRK (demand of apology) all taking place on the Web as a part of the broader IR multilateral framework ("Six-Party Talks").[33] Such dynamics need neither be mysterious nor opaque to methodology, and this is the major conclusion of our study. Indeed we argue that there may be no better place to look than the North Korea news space to understand central pieces of the puzzle, such as the Six Party Talks. The talks exist as a meeting, but as an issue we can track them on the Web and gauge the anticipatory strength of the news space. Indeed this reveals the feedback loop of government – news relations that posed significant challenges to quantitative international relations study in the past.

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[31] http://www.progressive.org/blogs05/ap012505.html accessed April 14, 2005.
[32] (CanKor apr. 6, 2005)
[33] (Ibid.)

This pattern of personality, semantics, threat matrix, and media-based response repeated itself throughout our study, which visualizes such interactions and identifies them as the day-to-day progression of the peninsular crisis. Our conclusion is that such a state of affairs is in fact a status quo present in the 1st and 2nd Korean nuclear debacles (Chang, 2003). At the CANCAPS conference in Quebec City in December of 2004 the likelihood of an immanent reunification based resolution was questioned by the expert community on the grounds of economic feasibility, desire on the behalf of the ROK and DPRK and the fact that on the US side the DPRK problem is now part of the War on Terror.[34] All of these assertions were evident in our study of the North Korean nuclear crisis through the Web.

Rogers (2004:139) identifies "terminological currency" in conflict on the Web which is very similar to our "semantic organizing frameworks." "Axis of Evil" and "Outposts of Tyranny" are semantic organizing frameworks related to securitization. However, semantic organizing frameworks are not exclusively proprietary on the behalf of those leading in the War on Terror. Rather the semantic organizing framework is both contested on the Web, and by the parties to the conflict. They represent objectives of foreign policy, while simultaneously being mediated by the Web across national boundaries and language groups.

> ...normally policy-making is a process of narrowing, not broadening, unless, as is our task, to seek emergent issues and emergent framings. ... We are interested in the currency of terms, for they tell us more about attention and lifespans of issues than pre-classified topics arranged by ministerial responsibility, newspaper desk, or library. They also show us when political issues die through terminological work. (Rogers, 2004:141).

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[34] "Korean Peninsula Security." CANCAPS Bulletin No. 44, February 2005. Chair: Alan Bowman, Asia Branch FAC. Speakers: Robert Bedeski, Professor Emeritus, University of Victoria; Wade Huntley, Simons Centre, UBC; Hartmuth Kroll, Korea and Oceania Division, FAC; Steve Ross O'Connor, Science politique Universite Laval. Rapporteur: Zachary Devereaux, Political Science, University of Alberta.

Once deployed, the semantic organizing frameworks take on a life of their own, even in other languages, as our study has shown. This process is part of what our web archivism has attempted to identify, that the semantics governing the world of the Web are a contested object of international information politics. The issues do take on a life of their own, but Reunification, Famine and Human Rights have been consistently less pertinent in the definition of reality derived from the North Korean news spaces.

This thesis has attempted to reveal how terminological work has sustained the threat of North Korean armament and its association with other targets within the rubric of "Regime Change." This broadest level of semantic diplomacy is necessary in a pressing way within the doctrine of the War on Terror. This thesis attempts to effect a methodology that would alert the researcher to the narrowing of conflict based terminology. Such narrowing, leading to premediation as was the case in the Iraq campaign (Bolter & Grusin, 2000), would constitute an anticipatory quality on the behalf of the Web in relation to emergent international military conflict.

McMurtry has argued that "The closed circuit of a media-spolighted 'crisis' with a foreign despot as the villain is the post-1980 format of war. The action always follows a theatrical formula." (McMurtry: 23). This line of reasoning, albeit radical, seems to fit with the unilateral development of the War on Terror. When it comes to North Korea we have attempted to discern between theatrics for their own sake and significant news relations. While analyzing the semantics of the North Korea news space we have had to make expressly clear that *as a theatre of confrontation* the North Korea English language news space is a charged territory. Visualizing the information politics of the parties to the conflict has rewarded us with greater understanding of the North Korean nuclear crisis.

Thus we focus more literally on information politics in the glaring absence of a competent, inclusive and fair debate, not only because of the semantic organizing principles enacted by the Bush administration, but also because of a similar retaliatory propaganda framework on the behalf of the DPRK, and, notably, the successful exclusion of DPRK based sources from the world of the Web. Rogers asks:

> Could we demonstrate how the Web may be employed to expose informational politics - to show the alignment of media stories of a debate about food safety with efforts to organize one by the government? Could the Web, more importantly, put on display the challenges ahead in ever trying to do classic politics without it? (Rogers 2004:169).

Could the Whitehouse confront the DPRK as well without the Web, and vice versa? Would it be worthwhile to ignore information politics in the case of the Korean nuclear crisis? Is there nothing to be gleaned from the juxtaposition of semantic organizing frameworks across linguistic and national groups? Our study answers no to all of these questions. We do not purport to have an ultimate solution in the form of this methodology (as a realist focus on power and power alone might offer) but we do assert that a framework is emerging from the constant enacting of information politics in the case of the Korean nuclear crisis that rewards study of what public diplomacy and international policy means and reveals when approached first and foremost through the Web. While it is tempting to identify this emerging framework as a subsection of political and IR inquiry, the primacy of new media in the actual confrontation, and the overt direction of resources towards ICTs in Asia and elsewhere compels us to grant greater significance to the heuristic.

In this conclusion we ask whether the importance of 'tuning in' to informational politics on the Web can any longer be ignored in the case of North Korea as a primary

facet of the confrontation taking place. We have been primarily motivated by the conception that measuring information politics on the Web related to the confrontation may provide a barometer, and a warning system as to the heating of the issue to the point of military conflict. However, as much as this has been motivated by the overt realpolitik of the parties to the conflict, our study leads to the conclusion that information politics is most likely to continue as the main articulation of the confrontation in the near to mid term. In the case of North Korea, information politics declaring the targeting of the DPRK have been significant, and while dynamic, have also shown elements of stability. We believe that the value of continuing to monitor information politics related to this specific conflict, as well as producing webtools related to political conflict in a general sense, has been demonstrated. Perhaps most importantly we feel that a competent demonstration has been made as to how information politics in international relations can be studied. Such study may be the leading means of understanding a multilateral and simultaneously public confrontation involving global civil society (a concept made less elusive by information politics). But the anticipatory or 'advanced warning' conclusion is a case where, at the time of writing, the jury is still out, and cannot help but be. The "Axis of Evil" has been transformed into "Outposts of Tyranny" and the new term will undoubtedly have its tour of duty. The continuation of semantic information politics within a relative atmosphere of stability is highly likely in the Korean situation. Military conflict remains a possibility, but based on our findings we hold that this is a relatively remote possibility. In the meantime, it is clear that public diplomacy can be treated well with our methodology and that such study may reward us with an advanced warning of a conflict escalation, should such an event occur.

Finally, in conclusion, the importance of ROK insight and leadership in relation to the crisis has been undervalued over time. The ROK is the closest party to the conflict with both the most to lose and, some would argue, the greatest insight into how to deal with the DPRK. Added to this assertion is the historical evidence of South Korea's prosperity which may well be the best and most relevant example for Pyongyang. Much depends on the conception of Korean identity as beyond the dictates of realist interpretations of sovereignty. Therefore positive developments very likely, and justly so, should begin with the Korean people themselves.

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The Govcom.org Foundation, Amsterdam : http://www.govcom.org/drafts.html
The Infoid Project : http://www.infoid.org
GoolgeNews : http://news.google.com/intl/en_us/about_google_news.html
Infowar Monitor : http://www.infowar-monitor.net/
Wikipedia : http://www.wikipedia.org
Canadian Korean News Clipping E-Service : http://www.cankor.ligi.ubc.ca/
The Nautilus Institute : http://www.nautilus.org

APPENDIX ONE, SUPPLEMENTARY DATA AND TECHNICAL CONSIDERATIONS.

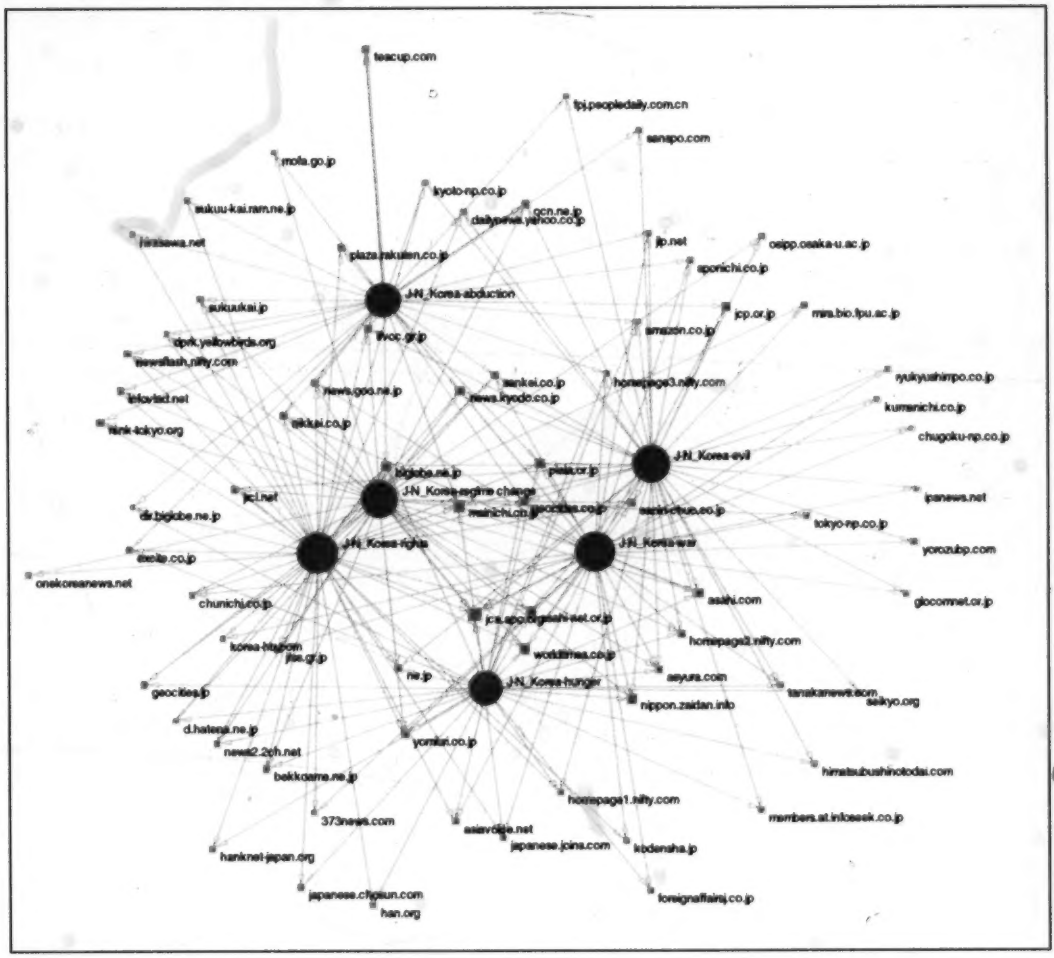


FIGURE. 25: Source vs Query (Google News in Japanese) 100% First NK Japanese Language News Space Map: Semantic organizing frameworks as related to provider

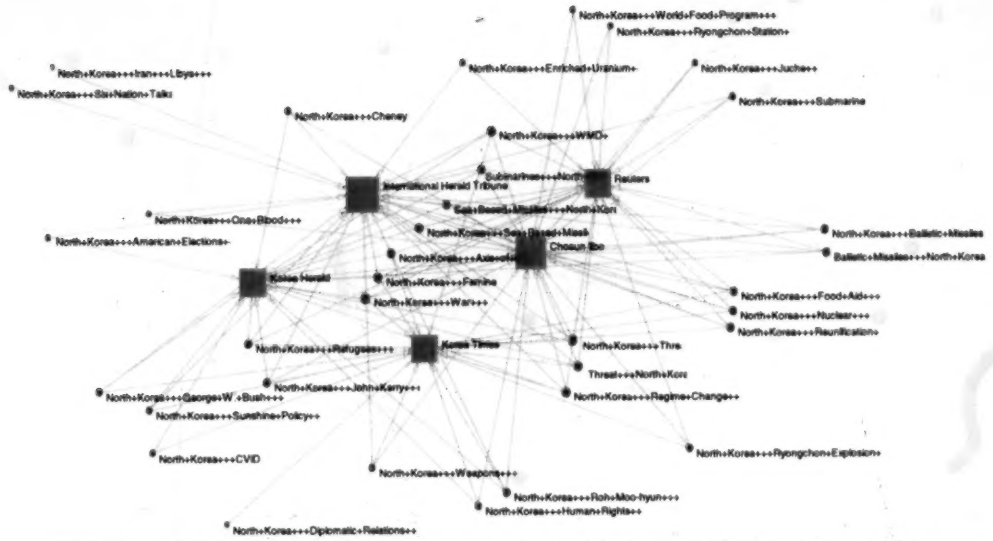
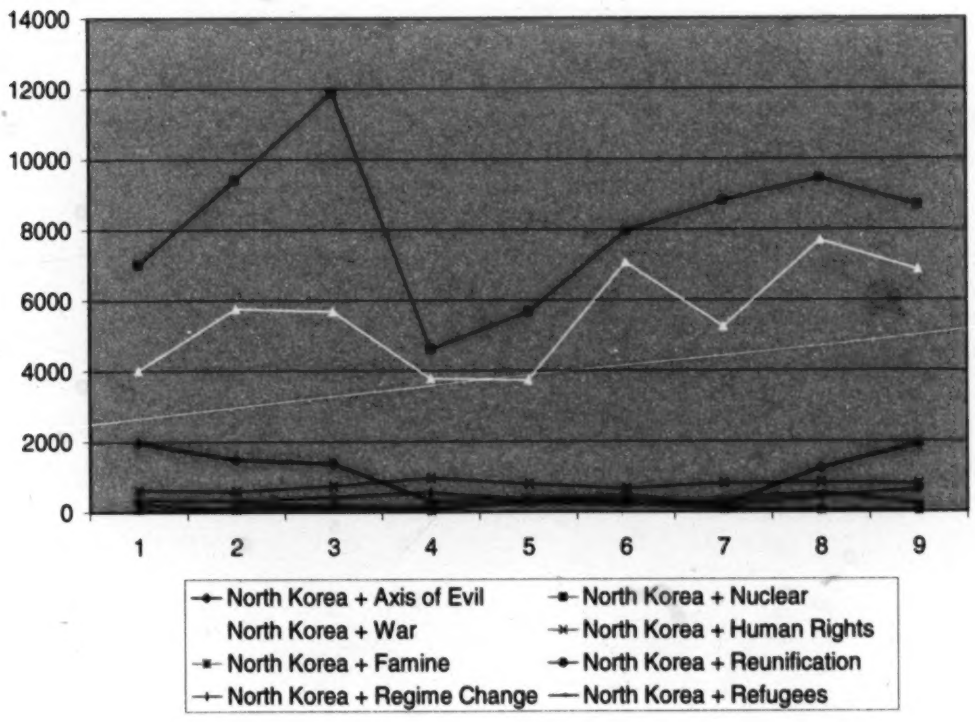


FIGURE. 26: NK. En.9 over45 all queries. The highest level of granularity, only providers with 45 stories relating to the semantic framework.

Questions about a narrow definition of dynamic mapping persist when one examines the larger scope of the North Korea news space mapping project. The project has been witness both to the automation of steps in the cartographic system, and has additionally involved efforts to visualize the flow over time of news content related to the central queries. The initial "Regime Change on Demand" map with its central seven queries is shown in chapter three above, and this map has been followed by data collection and visualizations over time. This type of cartography is dynamic in that the cartographer is actively engaged in the construction of automated processes as well as the combination of various webtools provided by different sources. Thus the original manual act of collecting Google News returns related to North Korea based queries has become an automated process in the form of the Google News Scraper, and sister projects in the trajectory of the "Occupied and Unoccupied Media Spaces" map shown above in chapter one have benefited from these developments in a similar manner. Indeed, the webtools related to the "Mapping the Ideational Space of the Palestinian – Israeli Conflict" project have begun to offer scraping technology in both English and French. Modification and

advance of the cartographic instruments is itself dynamic, and involves visualizations performed in several software platforms as this paper has attempted to explain. For example, the Google News Scraper does not give the total number of returns related to a query, the 'meta-returns' and therefore this data has been collected and visualized over time in relation to the central North Korea queries. Below is a line graph articulation of the North Korea meta-return data.

Through such visualization we have query-related information important to the mapping of the news space over time that is not yet incorporated into the cluster map visualization. This data comes from a central step in the cartographic technique of our maps and approaches the queries mapped in a relevant chronological manner. The depiction is a graph rather than a map, but has important reference to the maps set. We could dress this component of the study up as 3-D or more 'map like' but this runs counter to Tufte's principles. Rather one should note that resolving these formatting issues is a central part of the evolution of dynamic mapping.



North Korea + Axis of Evil	1970	1480	1370	311	373	445	202	1240	1910
North Korea + Nuclear	7020	9410	11900	4620	5670	7970	8830	9460	8690
North Korea + War	4020	5770	5690	3790	3740	7070	5250	7700	6860
North Korea + Human Rights	632	590	737	956	795	664	811	835	794
North Korea + Famine	78	76	199	38	340	256	79	50	46
North Korea + Reunification	221	100	103	107	279	323	100	69	56
North Korea + Regime Change	348	331	432	555	309	455	169	424	633
North Korea + Refugees		254	181	147	255	214	348	529	250

Figure 27. North Korea New Media News Space Meta-Return Graph. The left axis of the graph shows total numbers of returns for the seven queries listed below over the course of several months depicted on the bottom axis.

FIGURE. 28, Below, shows at a higher level of granularity the same data minus the queries "War" and "Nuclear" which are seen to dominate in the above chart. Notice the decline in the resonance of "Axis of Evil" which, we suggest was a factor leading to the replacement of the term with "Outposts of Tyranny."

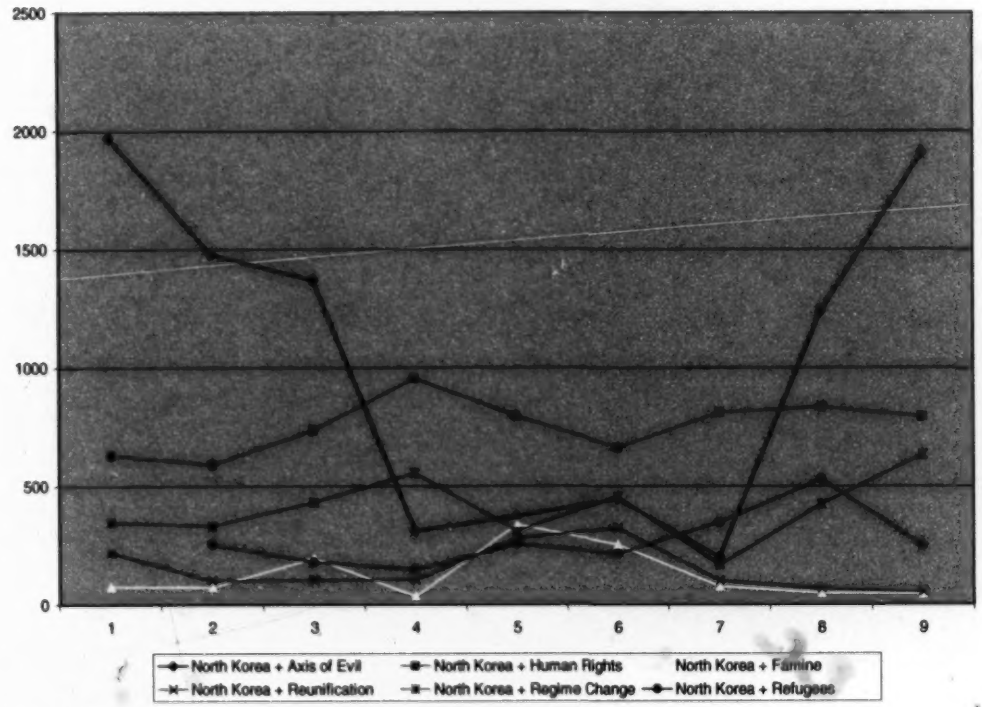
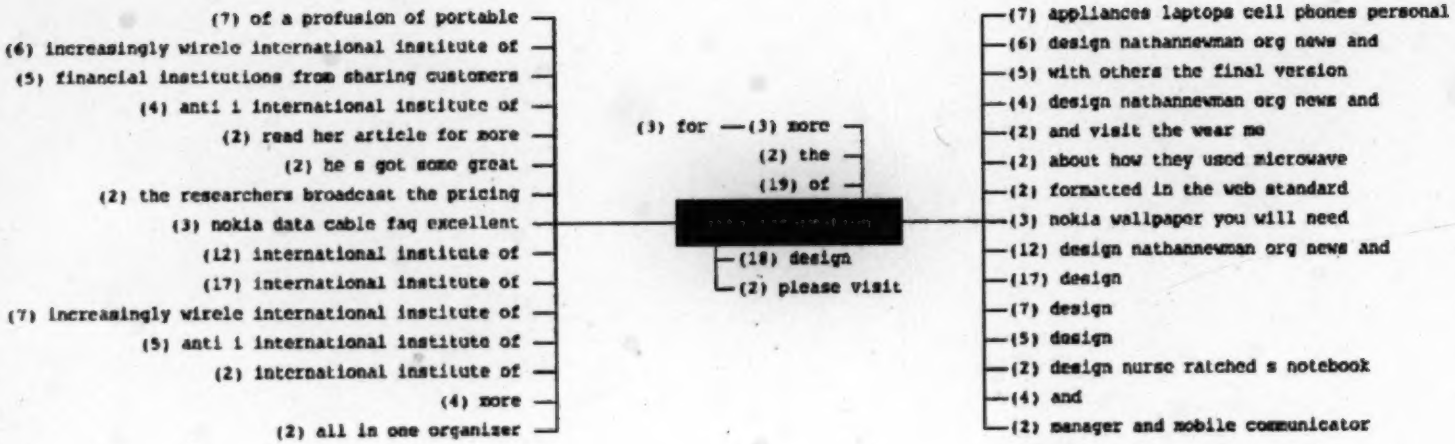


FIGURE. 28

FIGURE. 29, below, is the total Metareturn Data, for all queries / semantic frameworks, throughout the period of study treated by this thesis.

North Korea + Axis of Evil	1970	1480	1370	311	373	445	202	1240	1910
North Korea + Nuclear	7020	9410	11900	4620	5670	7970	8830	9460	8690
North Korea + War	4020	5770	5690	3790	3740	7070	5250	7700	6860
North Korea + Human Rights	632	590	737	956	795	664	811	835	794
North Korea + Famine	78	76	199	38	340	256	79	50	46
North Korea + Reunification	221	100	103	107	279	323	100	69	56
North Korea + Regime Change	348	331	432	555	309	455	169	424	633
North Korea + Refugees		254	181	147	255	214	348	529	250
North Korea + Song Dae Ri		8							
North Korea + Asylum		39							
North Korea + Six Nation Talks			3300	706	1300	1360	1760	2370	1710
North Korea + Food Aid			440	103	2910	846	184	281	387
North Korea + World Food Program			334	84	784	411	237	295	492
North Korea + Oil			2030	791	3180	1240	1530	2000	1050
North Korea + Diplomatic Relations			742	469	626	1180	691	549	1020
North Korea + Enriched Uranium			2860	231	371	739	1800	1040	679
North Korea + Weapons			11100	4050	5090	7280	6860	8280	7090
North Korea + WMD			4570	1030	1080	1080	142	392	357
North Korea + Sunshine Policy				34	36	44	29	25	27
North Korea + Juche (or) Self Sufficiency			86	17	40	41	30	16	28
North Korea + Iran + Libya			7490	1090	1080	1520	895		
North Korea + American Elections			1120	338			310		
North Korea + John Kerry			1250	304	278	827	2810	5580	1420
North Korea + George W. Bush			1520	470	480	659	1250	1800	2010
North Korea + Roh Moo Hyun				1180	792	1330	428	523	890
North Korea + Uri Party				830	483	681	211	169	89
North Korea + CVID				30	197	130	130	3	
North Korea + Cheney				2290	870	213	806	1720	1170
North Korea + Ryongchon Station					2840	14	345	1	
North Korea + Ryongchon Explosion					4270	43	417	3	
North Korea + One Blood						236	188	178	
North Korea + Smear Campaign							267	11	
North Korea + Security Law Repeal							84	911	1470
North Korea + Kim Jung Il								42	36
North Korea + US Threat								3380	1820
North Korean Human Rights Bill + John Kerry								19	
North Korean Human Rights Bill + George W. Bush								24	
North Korea + Troop Withdrawal							40	91	15
North Korea + Iraq War								5800	
North Korea + Portraits									439
North Korea + Junichiro Koizumi									2060
North Korea + Abductees									90
North Korea + Iran									5790

The point is that dynamic mapping involves the development of cartographic instruments that are applied by a cartographic community to different issues. This process forms an evolutionary feedback loop which has social as well as technical consequences. This holds for the issue network and news space cartography community, as maps are generated in a communal archive, and can be viewed and analyzed by any individual in the research community. Thus, mapping is 'going on before your eyes' and logging into the colinkage mapping engine itself entails being aware of other cartographic efforts. Finally, the digital nature of the objects, links and words being mapped means that different types of maps created with different tools are a continually developing aspect of research. For example, scraper output related to the information design research community were recently analyzed and articulated in a the form of a fixed phrase word map by researchers independently developing text analysis software. This word map, depicting the fixed phrase location of the term 'information' as it appears in scrape returns from blogstreet is shown below. [FIGURE. 30]. Having such fixed phrase location data related to the semantic organizing frameworks related to North Korea in this thesis would be a rewarding resource. Imagine, for example, fixed phrase graphs with "North Korea + War" or "North Korea + Nuclear" for each of the English, Chinese, and Japanese news spaces. It may be difficult to consider the fixed phrase graph a map, but I would argue that it is one. Considering this word map from a technical standpoint sheds some insight on this claim. Issue network colinkage maps are made in the same digital tool suite as this word map. They are both Scalable Vector Graphics, known as Adobe .svg or '.svg.' Thus we see the digital as a common unifying factor across various visualizations and maps presented here with an eye to dynamic mapping.


(7) of a profusion of portable
(6) increasingly wirele international institute of
(5) financial institutions from sharing customers
(4) anti i international institute of
(2) read her article for more
(2) he s got some great
(2) the researchers broadcast the pricing
(3) nokia data cable faq excellent
(12) international institute of
(17) international institute of
(7) increasingly wirele international institute of
(5) anti i international institute of
(2) international institute of
(4) more
(2) all in one organizer
(3) for
(3) more
(2) the
(19) of
(18) design
(2) please visit
(7) appliances laptops cell phones personal
(6) design nathannewman org news and
(5) with others the final version
(4) design nathannewman org news and
(2) and visit the wear me
(2) about how they used microwave
(2) formatted in the web standard
(3) nokia wallpaper you will need
(12) design nathannewman org news and
(17) design
(7) design
(5) design
(2) design nurse ratched s notebook
(4) and
(2) manager and mobile communicator

Figureure 30. Fixed Phrase Graph of the term "Information" in Blogstreet scraper returns, summer,